Per
Railway Age

JULY 13, 1946

Founded in 1856

5 COPY

ALL STAR LINE-UP FOR *SAFETY AND ECONOMY*

WINE HOPPER FRAME

WINE HOPPER DOOR HINGES

WINE HOPPER DOOR LOCKS

WINE SAFE-GRIP LADDER AND HAND HOLDS

WINE BRAKE BALANCER

WINE SIDE BEARINGS

Specify WINE APPLIANCES FOR HOPPER CARS

THE WINE RAILWAY APPLIANCE CO.
TOLEDO, OHIO

This man is a Resident Inspector for The Association of Manufacturers of Chilled Car Wheels. Every working day he hangs up his hat in the same place . . . in the plant of an Association member.

Voluntary adherence to a rigid code of highest standards is checked by the Resident Inspector in each member company plant . . . inspecting each wheel for surface imperfections . . . reviewing the casting records of each wheel . . . selecting wheels for daily tests. His "bible" is the AMCCW Inspection manual, a standardized schedule of procedures often revised as better methods are put into use. Through daily reports he keeps in touch with the head inspection office in Chicago . . . regularly attends group meetings of General Resident Inspectors . . . has his own work given a double-check by semi-annual plant visits by a corps of General Inspectors.

The list below shows you where your nearest AMCCW Resident Inspector is located, the company at whose plant he can be found, and where you are invited to contact him and discuss inspection practices. He will gladly explain his obligation to see that *every* wheel shipped is as good as the best.

There is an Association Resident Inspector in your territory.

Name	Company	Plant
S. J. Szabo	A. C. F.	Berwick
H. A. Martin	A. C. F.	Chicago
L. R. Drown	A. C. F.	Huntington
W. E. Salomo	A. C. F.	St. Louis
R. M. Woost	Griffin	Cleveland
M. H. Shaw	Griffin	Boston
R. G. Herrmann	Griffin	Chicago
W. R. Oakley	Griffin	Cincinnati
W. Kozak	Griffin	Co. Bluffs
B. P. Naiman	Griffin	Denver
A. P. Bernard	Griffin	Detroit
W. J. Willard	Griffin	Kansas City
O. Hofmann	Griffin	Los Angeles
D. B. Oblad	Griffin	Salt Lake
E. M. Hawthorne	Griffin	St. Paul
E. W. Zimmerman	Griffin	Tacoma
D. G. Holt	Marshall	Marshall
W. D. Sawyer	Maryland	Baltimore
A. J. White	New York	Buffalo
J. V. Skierkoski	Pullman	Hammond
G. B. Sorrells	Southern	Atlanta
H. Morrison	Southern	Birmingham
D. D. Duryea	Southern	Houston
W. J. Muehlbauer	Southern	Pittsburgh
W. W. Dew	Southern	Portsmouth
T. Uglialoro	Southern	Rochester
F. E. Soule	Southern	Sayre
H. M. Ingram	Southern	St. Louis
J. W. Dority	Southern	Toledo.

AMCCW ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE, NEW YORK 17, N. Y. • 435 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.

Organized to achieve Uniform specifications — Uniform inspection — Uniform product

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 121, No. 2.

STURDY

POSITIVE IN ACTION

ABSOLUTELY RELIABLE

MINER Friction Draft Gears

W. H. MINER, INC. CHICAGO

BETTER PIPE

New York

G-B MFG. CO.

ESTABLISHED 1898

TRAIN PIPE INSULATIONS

For Steam, Hot Water and Oil Lines

★ Superior Insulating Efficiency ★ Rot and Vibration-proof

★ Extremely Lightweight ★ Easily Applied

Through and through from rugged, abrasion-resistant outer asbestos jacket to the highly resilient, better insulating glass fiber formations — G-B Pipe Insulations assure passenger comfort and fuel economy from cab to observation car.

Less Heat Conductivity—proved in the laboratory and on the road under severest conditions—enables G-B Fiberglas Pipe Insulations to serve their major function as insulation with superior efficiency.

Their unique construction provides for easy, more economical application, and re-application again and again if desired. Glassbestos Tape spirals tightly and securely over compound bends and angles. The Flexible Pipe Insulation laces easily to straight runs and minor bends and special boots or fittings are available for tees and elbows. Both Flexible Pipe Insulation and Glassbestos Tape are provided with special overlap seals to insure complete, uniform protection.

From every standpoint G-B Fiberglas Insulations insure top efficiency, a long, economical service life under all operating conditions.

Fiberglas* is sold to Railroad and Car Builders Exclusively by

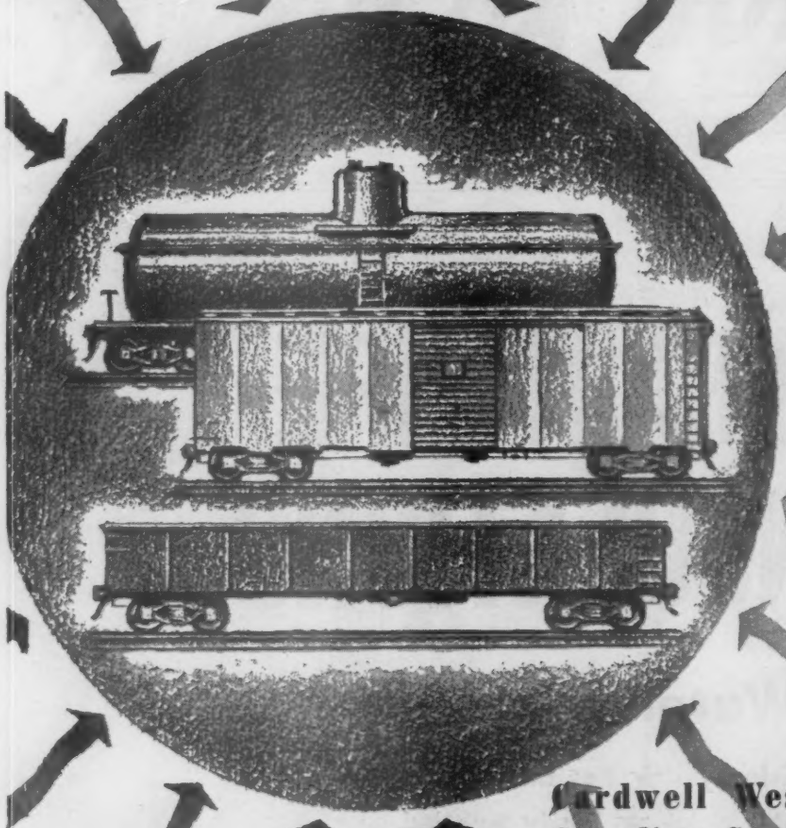
GUSTIN-BACON MANUFACTURING COMPANY

KANSAS CITY 7, MISSOURI

* Trademark Reg. U. S. Pat. Office by Owens-Corning Fiberglas Corp.

Philadelphia Chicago Tulsa Houston Fort Worth San Francisco

All-round Protection



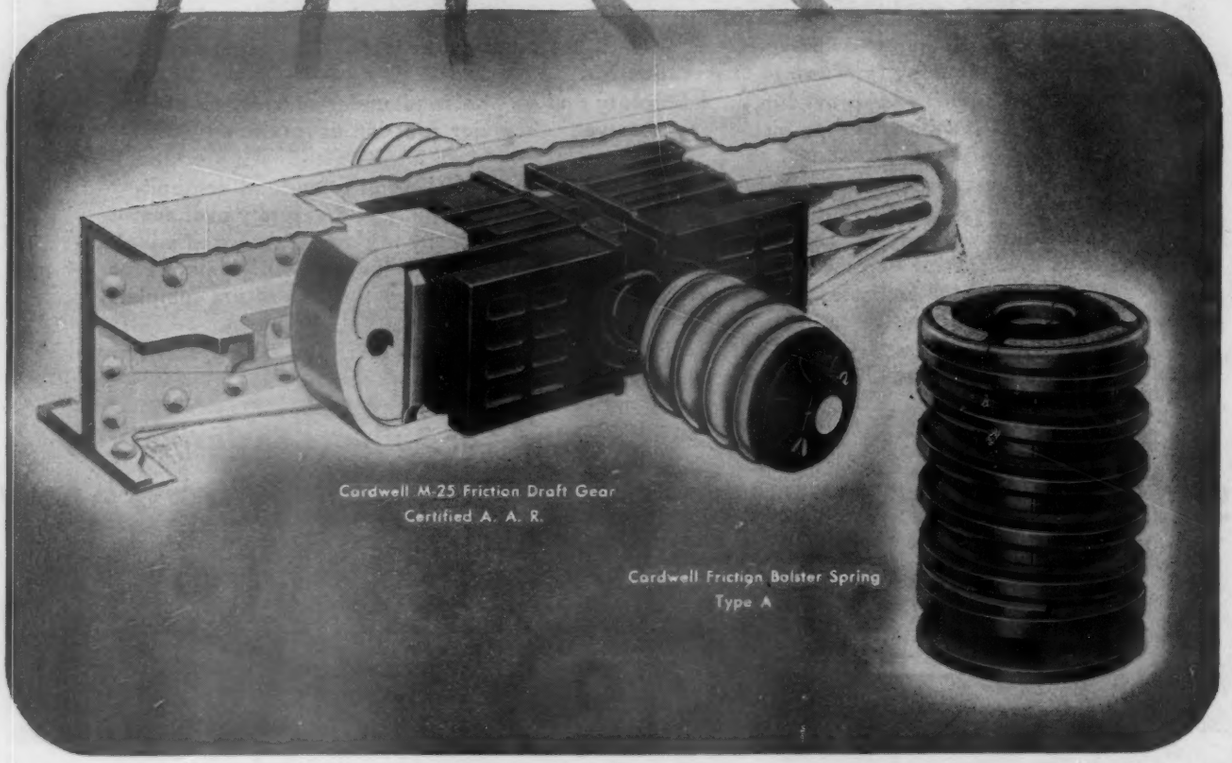
Cardwell and Westinghouse Friction Draft Gears and Bolster Springs protect Cars and Ladings:

— By absorbing the shocks to which couplers, cars and lading are otherwise subjected in coupling, starting, operating and stopping trains or cars.

— By absorbing the bumps and bouncing caused by rail joints, and the shocks and stresses due to curves and other roadbed conditions which build up sidesway and rocking.

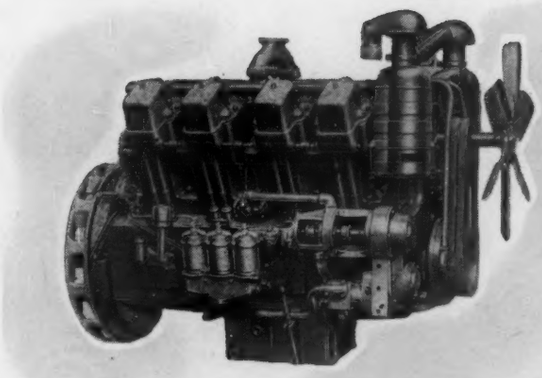
Over 98% of the cars in freight carrying service are A. A. R. construction, and over 96% have Friction Draft Gears.

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal



Cardwell M-25 Friction Draft Gear
Certified A. A. R.

Cardwell Friction Bolster Spring
Type A



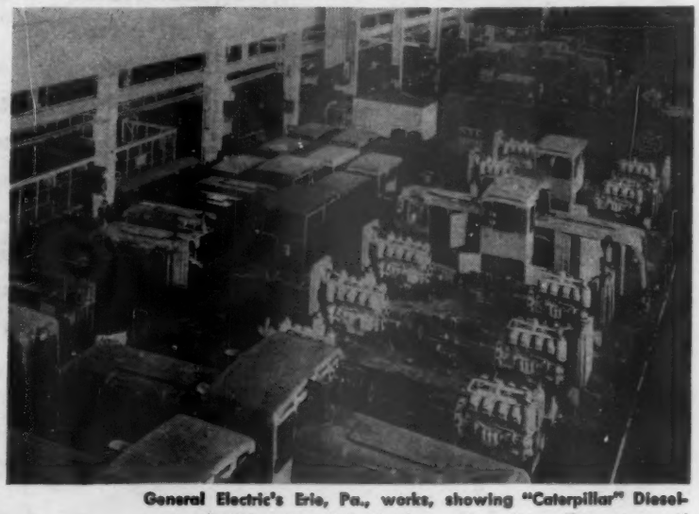
IT'S WHAT'S UNDER THE HOOD THAT COUNTS!

Consider the *engine*, and it is easy to understand why more than 90% of the 44-ton locomotives owned by class railroads in America are powered by "Caterpillar" Diesels. Consider the fine engineering, the high-quality materials and the high-grade manufacture that is in them. Consider, too, these important auxiliary factors that go to put profitable performance and high availability into locomotives that are usually expected to work 'round the clock:

1. Excellent mechanical service through a highly efficient and thoroughly equipped dealer organization.
2. Quickly available high-quality, low-priced parts. (Compare competitive prices of typical items.)
3. No specially trained mechanical forces required for your own maintenance service.
4. More capacity than size indicates. (With slight rearrangement of car movement, these low-initial-cost locomotives will handle many yard and branch-train assignments which otherwise have to be handled by locomotives that are far more costly to purchase and operate.)
5. Dual engine installation is double insurance against breakdown at no extra "premium."

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

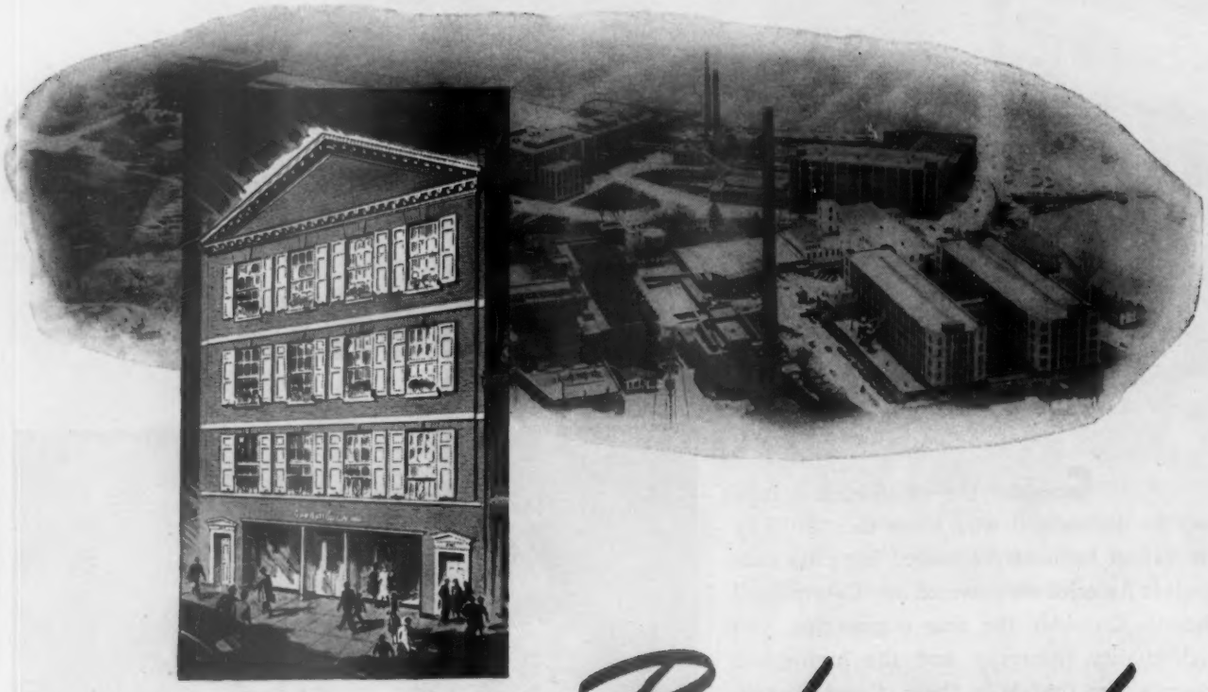
Davenport Besler 44-ton Diesel-electric locomotive powered by two "Caterpillar" Diesel D17000 Engines.



General Electric's Erie, Pa., works, showing "Caterpillar" Diesel-powered 44-ton Diesel-electric locomotives in various stages of assembly.

CATERPILLAR REG. U.S. PAT. OFF. **DIESEL ENGINES**

TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT



BUILDING WITH A *Background*

GOODALL FABRICS, INC. Opens Its New Home in New York Where All Sales Offices Are Unified—The Final Step In Vertical Integration to Serve You Better

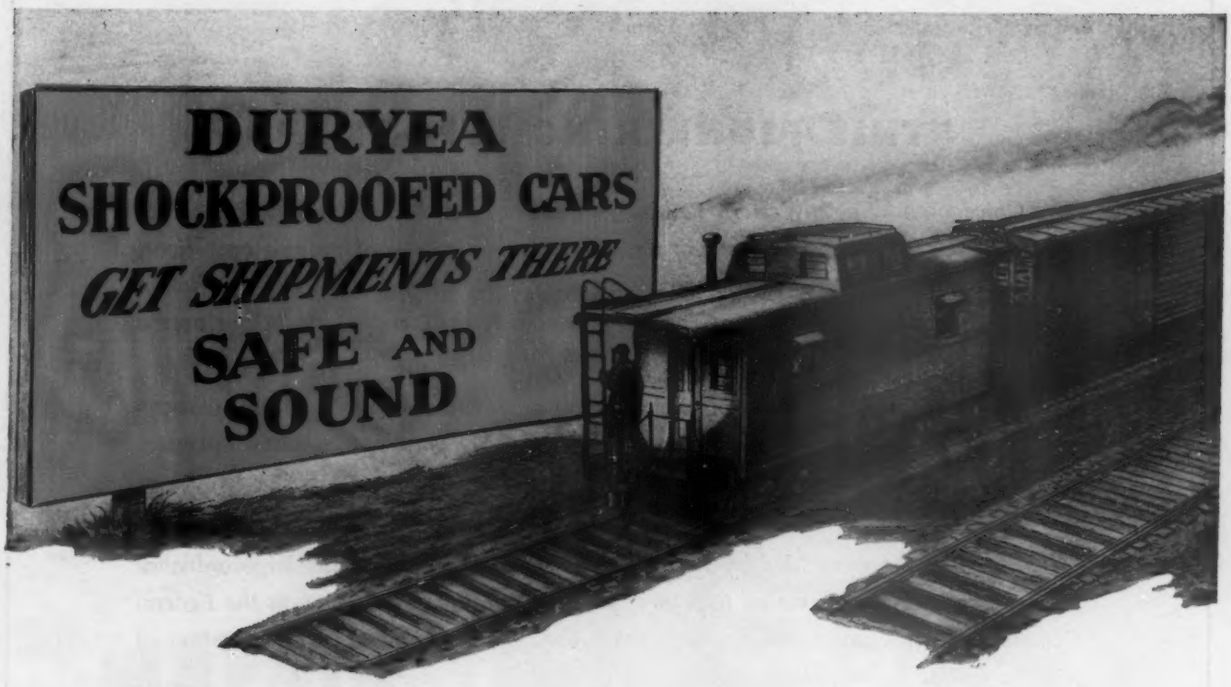
A year ago the selling organizations, L. C. Chase and Goodall Decorative Fabrics, were joined into Goodall Fabrics, Inc. Now Goodall opens its new home at 525 Madison Avenue.

With this unification of sales-service staffs, Goodall Fabrics completes its plan for complete vertical integration. We repeat a statement made to Goodall customers in a previous announcement:

"One company—and ONE company alone—assumes full responsibility for the quality of the raw materials; for the authentic styling you want; for the beauty of color and design; for the uniformity and durability of the weave; for the pricing, acceptance and DELIVERY of your order. Everything handled, figuratively, under ONE roof...at ONE profit."

YOU ARE CORDIALLY INVITED TO VISIT OUR NEW HOME IN NEW YORK

Goodall Fabrics, Inc.
Subsidiary of Goodall-Sanford, Inc.
525 MADISON AVENUE
NEW YORK, NEW YORK



The way to stop the rising tide of damage claims which cost railroads, shippers, and receivers millions of dollars annually lies in a wider use of Duryea-equipped cars. The Duryea Cushion Underframe actually "floats" car body and lading on a cushion of springs, impervious to all the normal jolts and hazards of coupling and train service.

The great number of these cars now in service over the years have fully proven the merit of the Duryea Cushion Underframe.

The Duryea principle not only provides safer shipping, but also answers the problem of how to reduce car maintenance costs. No Duryea Cushion Gear has ever had to be replaced except for wreck damage.

DURYEA *Cushion* UNDERFRAME

THE MODERN SAFEGUARD
FOR SHOCKPROOF SHIPPING

O. C. DURYEA CORPORATION

30 Rockefeller Plaza, N.Y. 20, N.Y. • 135 S. LaSalle St., Chicago 3, Ill.

1601 Mercantile Trust Bldg., Baltimore 2, Md.

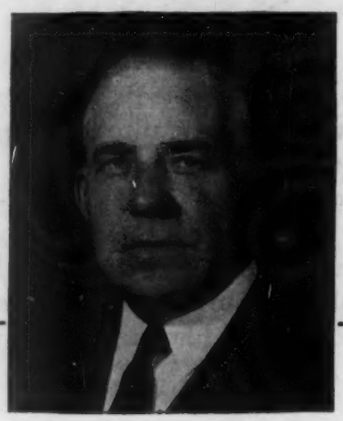
"THIS PIONEERING EFFORT..."

"The Chicago and North Western Railroad, always interested in technological developments which promise improvement in the efficiency and safety of railway operations, participated in the first regular use of very high frequency railway radio. This installation went into operation in our Proviso Yards in September, 1940, and continued for over a year thereafter.

"We are happy that the technical and operating information secured from this pioneering effort was subsequently useful to the Army Ordnance Department and to the operators of the large Army Ordnance Plants in making their decision to use railroad radio in connection with the war effort.

"The case histories provided by the use of radio at Proviso and in the large ordnance plants were later to become an important part of the railroad testimony in the Federal Communications Commission hearing which brought about the present allocation of frequencies for railway use."

PRESIDENT,
Chicago and North Western Railway System



When the Chicago and North Western Railway conducted its Proviso Yards pioneering of high frequency radio for communications purposes, some of the present members of the Farnsworth Mobile Communications Division assisted in a technical capacity. These individuals, too, were largely responsible for the Army Ordnance Department's first use of radio in railway operations.

These events occurred more than five years ago, long before the Federal Communications Commission's recent allocation of frequencies for railway use—and at a time when the future of railroad radio was fraught with doubt, and only one organization was pressing for recognition of the railroads' right to frequencies.

Today, the results of almost a decade of pioneering effort and engineering appear in the new Farnsworth 152-162 megacycle railroad radio equipment—*systematized equipment designed to guarantee maximum availability and flexibility with simplified, low-cost maintenance*—equipment meeting all of the presently-established requirements of the Federal Communications Commission and the Interstate Commerce Commission. Farnsworth Television & Radio Corporation, Dept. RA-7, Fort Wayne 1, Indiana.

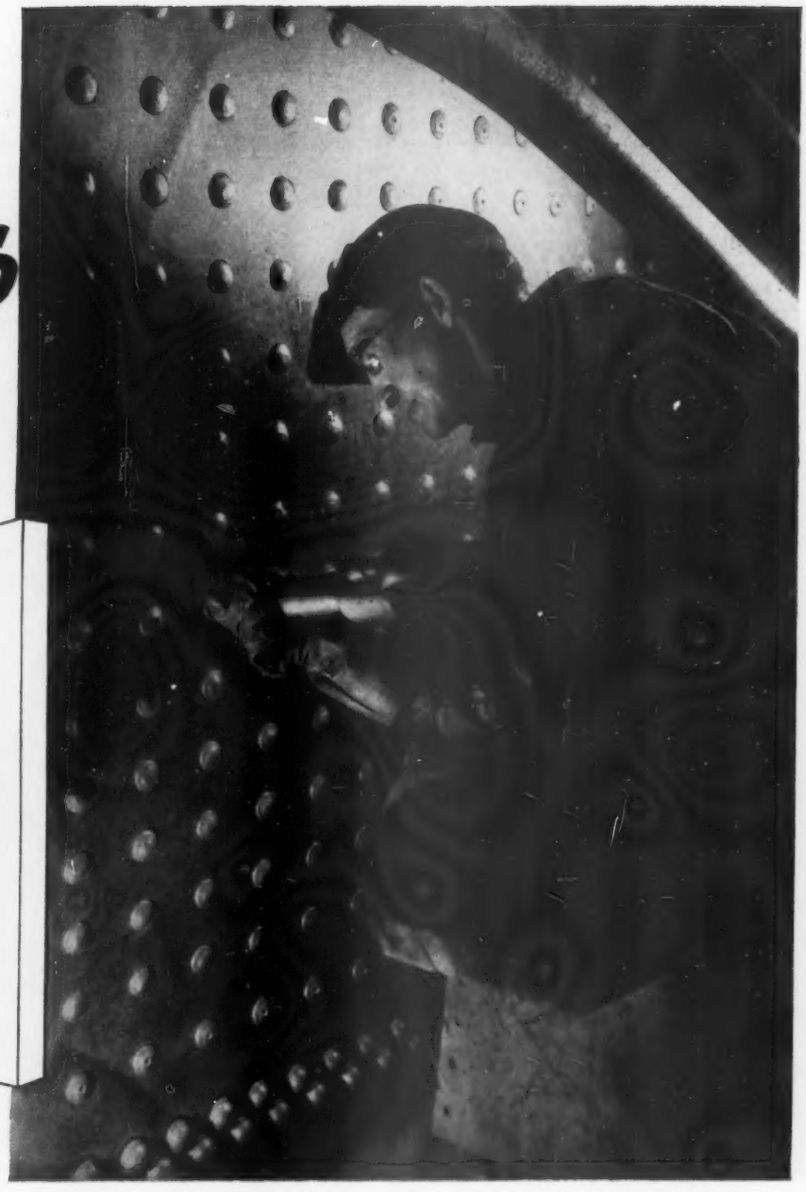
FARNSWORTH *TELEVISION & RADIO CORPORATION*

Farnsworth Radio and Television Receivers and Transmitters • Aircraft Radio Equipment • Farnsworth Television Tubes • Halstead Mobile Communications and Traffic Control Systems for Rail and Highway • the Farnsworth Phonograph-Radio • the Capehart • the Panamuse by Capehart

Your records will prove

MAYARI
(RHYMES WITH "FIERY")
STAYBOLT STEELS

lower costs



Mayari Staybolt Steel sells for considerably less than staybolt materials heretofore in general use. But initial cost is only part of the picture—this modern alloy steel has the all-around properties that assure low-cost installation and long service life.

Mayari is ductile. Tests show it has minimum elongation in 2 inches of 32 per cent and minimum reduction of area of 62 per cent. This means better heading qualities and ability to stand constantly changing loads and stresses.

Mayari is stronger. It is produced in two ranges—minimum tensile strength of either 50,000 psi or 55,000 psi. These meet most railroad requirements in modern high-pressure locomotive boilers.

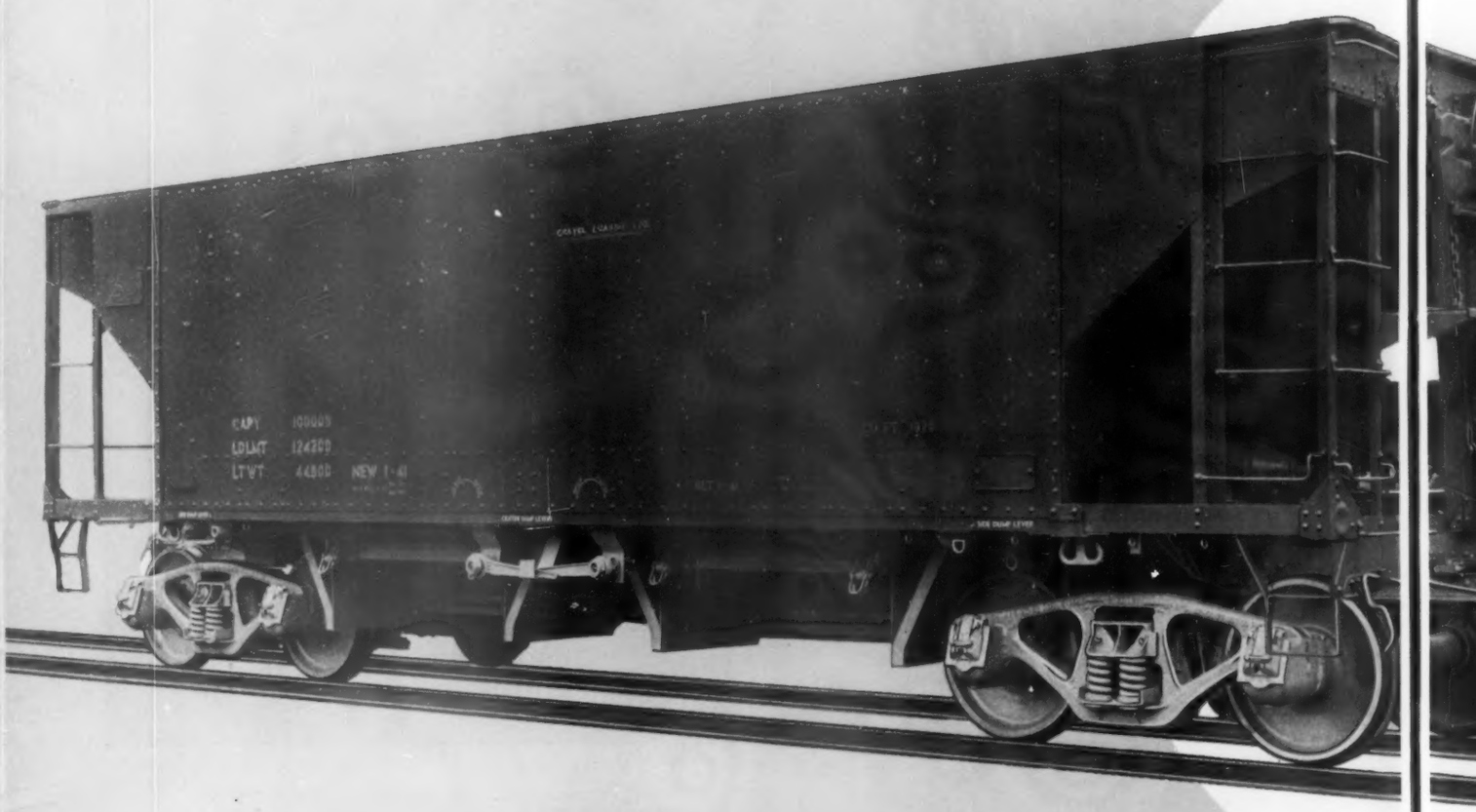
Mayari resists fatigue. This property is guarded through strict metallurgical control and newly-developed laboratory tests.

This staybolt steel is effecting savings for leading American railroads. If you are not using Mayari, we suggest you test it and try it out in your own equipment.

BETHLEHEM STEEL

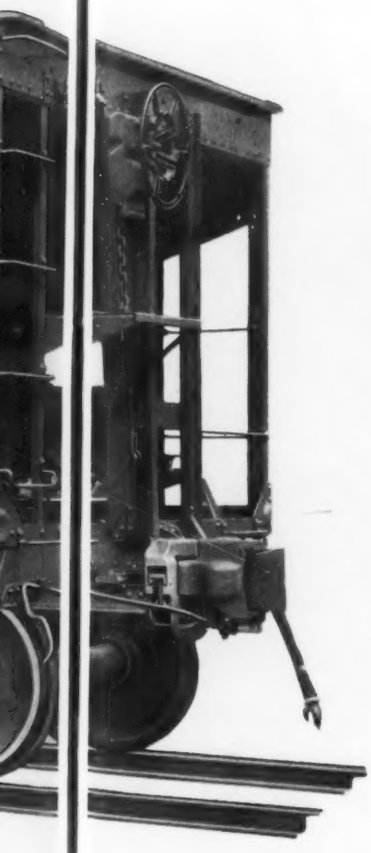
BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation

Ballast Cars Can Be R



a.c.f.

e Revenue Producers, Too



The Rodger Ballast Car, built by A.C.F., can serve a double purpose. First, as a conveyer of ballast for the improvement and leveling of roadbeds. Second, as a revenue producing hopper car for the carriage of sugar beets, coal, ore, and other bulk commodities.

Today, with rolling stock in such demand, such versatility is of great importance to the carriers of our nation's freight. Wider use of ballast cars results in more favorably distributed loadings of commodities, greater operating efficiency, and increased earnings for the railroad.

More ballast will be placed this year than any year since 1930.* Be prepared with modern double purpose A.C.F. Rodger Ballast Cars

*Railway Age, March 9, 1946

AMERICAN CAR AND FOUNDRY COMPANY

New York • Chicago • St. Louis • Cleveland • Philadelphia • Washington • Pittsburgh • San Francisco

HERE'S WHAT YOU GET
WHEN YOU SPECIFY
BARCO
STEAM HEAT CONNECTIONS
FOR YOUR CARS
• 50% fewer gaskets, springs and wearing parts to maintain.
• Hardened alloy steel forged metal wearing parts, including threaded end at point of greatest strain.
• Connection needs no dismantling when applied or removed from end valve.
• Many main parts of all connections are interchangeable, thus reducing funds tied up in protection stock.
• Longest wearing gaskets reduce intervals between replacements.
• Same gaskets are used in all types, on both 2" and 2½" sizes. Minimum weight and bulk in all connections.
Barco gives maximum steam supply with a minimum of maintenance, a minimum of repair cost. The connections will not blow out or fail suddenly under the most severe conditions. Repairs can be made with remarkable ease and speed. Write for full details.

BARCO MANUFACTURING COMPANY, NOT INC.

1800 WINNEMAC AVENUE, CHICAGO 40, ILL. • *In Canada:* THE HOLDEN CO., LTD., MONTREAL, CANADA

6 Points

ABOUT I. B. LOCOMOTIVE CRANES WELL WORTH YOUR CONSIDERATION

- Sure, sensitive response to air-operated controls speeds up the job with less operator fatigue.
- Anti-friction bearings at all essential points minimize maintenance.
- Monitor-type cab affords operator 360° visibility.
- One-piece cast steel bed insures rigid mechanism, prolongs crane life in continuous heavy service.
- Rotating and travel friction disc clutches with one-point adjustment reduce costly wear and strain on mechanism.
- Industrial Brownhoist Locomotive Cranes assure fast, economical handling of materials with hook, magnet, or bucket with a minimum of down-time.

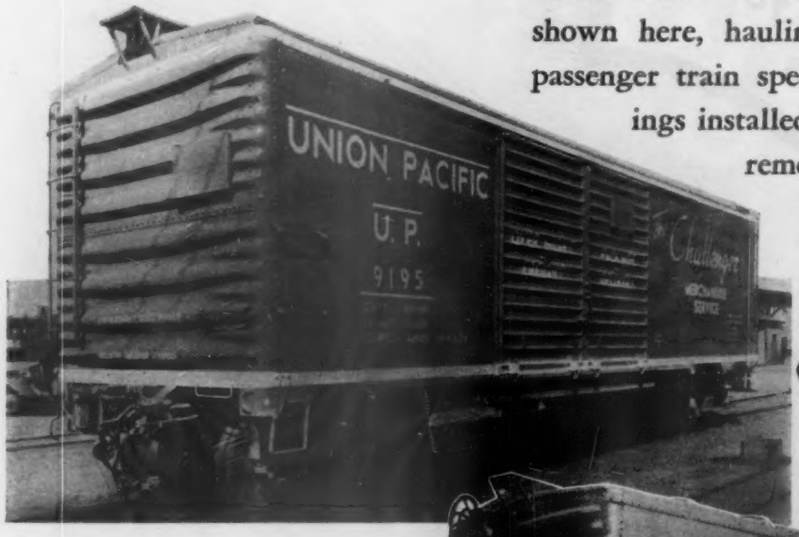
The I.B. 17-20 ton traveling ore bridge illustrated here typifies the engineering and construction superiority found in Industrial Brownhoist bridges, car dumpers, portal pier cranes, and other big materials handling equipment. For the engineered answer to your materials handling problems get in touch with Industrial Brownhoist.

INDUSTRIAL BROWNHOIST BUILDS BETTER CRANES

INDUSTRIAL BROWNHOIST CORP • BAY CITY, MICH. • District Offices: New York, Philadelphia, Cleveland, Chicago • Agencies: Detroit, Birmingham, Houston, Denver, Los Angeles, San Francisco, Seattle, Vancouver, B.C., Winnipeg, Canadian Brownhoist Ltd., Montreal, Quebec.

More Freight Cars on
TIMKEN ROLLER BEARINGS

In the not too distant future, we may expect to see entire trains of new freight cars similar to those shown here, hauling more freight per train at passenger train speeds. For Timken Roller Bearings installed in new type trucks now have removed all freight car speed restrictions as far as bearings are concerned.



1. Union Pacific R. R. Timken Bearing Equipped freight car for high-speed merchandise service. Ten of these cars have been in service more than five years and have given 3,302,033 miles of trouble-free service to March 1, 1946.

2. One of five new light-weight freight cars on the Rock Island Lines. All journals equipped with Timken Roller Bearings.

3. One of 25 Great Northern R. R. new freight cars equipped with Timken Roller Bearings.

Timken Roller Bearing applications are available now for all types of modern, high-speed freight car trucks.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

THE TIMKEN ROLLER BEARING COMPANY, CANTON 6, OHIO

Good for the life of the Car

Here's factual proof . . . while Schaefer Loop Type Hangers have been in use on practically every railroad in the United States, in more than twenty years no failures in service have been reported . . .

Write for Catalog No. 445

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.

LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS . . . TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS . . . BRAKE ROD JAWS . . . WEAR PLATES . . . BRAKE SHOE KEYS

Electric Industrial Trucks

When production costs must be cut and your attention must turn to hitherto neglected wastes in material handling, you will find the answer in mechanization with central station *electric power*—the power that serves industrial processes most dependably, most economically.

In warehousing, in serving common carriers or production processes, you will find that materials flow easily, quickly, safely, and at the lowest cost per ton handled, when the job is assigned to *battery-powered* self-loading industrial trucks.

The Electric Industrial Truck Association

208A South La Salle Street, Chicago 4, Illinois

Send

FOR THESE BOOKLETS . . .

Two illustrated booklets—MATERIAL HANDLING HANDBOOK and UNIT LOADS—may help you detect and correct excessive cost wherever you move or store materials.

FACTS... THAT FIGURE IN ELIMINATING DEADWEIGHT

This new bulletin shows how the use of Haskelite Plymetl can eliminate deadweight from your passenger coaches. For example, in a coach having only 400 square feet of partitions, Plymetl partitions used instead of hollow steel will save approximately 1,200 pounds. Deadweight reductions like this are important to you. They may be saved outright or used to increase or improve the safety, performance and passenger appeal of your cars.

The new Plymetl bulletin covers the types of Plymetl available, fabrication, finishing and fastening data. Stiffness and weight charts point out advantages over steel and aluminum.

You will find your new Plymetl bulletin a guide to greater savings in cost and weight. Mail coupon for your free copy today.

Plymetl is made by bonding thin sheets of metal to one or both faces of a plywood plaque. Its construction effects the most efficient distribution of these materials. It combines high strength qualities of metal surfaces with the low density of wood. Result: Plymetl makes an ideal structural material. It simulates an I-beam with the metal faces taking the part of the flanges and the lightweight plaque acting as the web.

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DETROIT CHICAGO NEW YORK
CLEVELAND ST. LOUIS PHILADELPHIA

CANADA: Railway & Power Engineering Corporation, Ltd.

KOPPERS PRESSURE-TREATED Timber Panel Grade Crossings TAKE the "Bumps" but don't GIVE them

These pictures show one important advantage of Koppers Creosoted Timber Panel Grade Crossings. In spite of constant heavy truck traffic, the traffic surface is maintained at installed grade, does not sag, spall, "washboard" or disintegrate.

There are other important features and advantages that show up during installation . . . and in use. Built up from selected hardwood members that are machined, pressure-creosoted and assembled with spiral-drive dowels, the individual panels come ready for installation. They can be handled by the workmen; no crane is required.

Thorough pressure-treatment gives dependable protection against decay. Careful factory fabrication results in traffic loads being distributed over the entire panel, reducing stress and flexing of individual members. The panels can be easily lifted when the track is reworked under the crossing, and 100% re-use of serviceable parts is possible.

Engineering information on these crossings is condensed in a 4-page bulletin, "Koppers Creosoted Timber Panel Grade Crossing." We will be glad to send you a copy on request. Wood Preserving Division, Koppers Company, Inc., Pittsburgh 19, Pennsylvania.

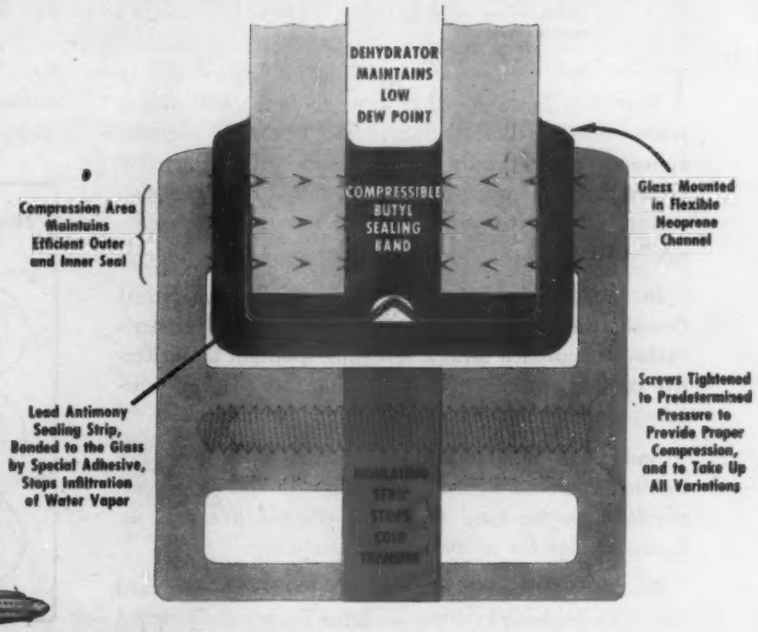
EASY TO CLEAN 'EM ON THE OUTSIDE...

BUT—what about the SEALED INNER SURFACES? That's no problem when you standardize on Edwards Double Glazed Dehydrated Sash. For Edwards exclusive Vapor-Tight construction permanently DOUBLE SEALS (note diagrammatic drawing) the dead air space so there CAN BE NO mechanial leakage or water vapor infiltration to cause fogging, frosting or film accumulation. The result is window units of brilliant, crystal clear visibility in all seasons, climates and under all operating conditions—FREE OF MAINTENANCE.

New Edwards Vapor-Tight Double Glazed Units combine ruggedness with proper flexibility and are SEALED at the factory, for the life of the car. Readily adaptable for installation in any car construction and interchangeable with other double glazed units, they are competitively priced—the best "buy" on the market. Write for complete information.

THE O. M. EDWARDS COMPANY
Syracuse, New York

EDWARDS
Vapor-Tight
DOUBLE SEALED
SASH


DEHYDRATOR MAINTAINS LOW DEW POINT
COMPRESSIBLE BUTYL SEALING BAND
Compression Area Maintains Efficient Outer and Inner Seal
Glass Mounted in Flexible Neoprene Channel
Lead Antimony Sealing Strip, Bonded to the Glass by Special Adhesive, Stops Infiltration of Water Vapor
Screws Tightened to Predetermined Pressure to Provide Proper Compression, and to Take Up All Variations

SASH FOR EVERY TYPE OF TRANSPORTATION—ON LAND, ON THE SEAS, IN THE AIR

Less shipping "wait" at Cone Automatic Machine Co. as record system is re-geared
Smoother shipping operations, fewer delays result from practical overhaul of packing, shipping, and invoicing record system of leading machine tool manufacturer *by Standard Register's exclusive methods.* 4 separate writings reduced to one. 30 time-consuming operations cut to 17.
PROCEDURE FLOW CHART

And Standard Register's exclusive procedures save most where record systems cost most

IT'S IN THE WRITING and handling of forms—*and in how they function*—that waste finds the best hiding place. And it's here that Standard Register's scientific approach so frequently reveals sources of savings that escape the usual office or systems study. Savings which multiply themselves all over again through better management control.

In predetermined basic steps—including analytical flow-charting of existing methods—Standard Register's exclusive approach turns a revealing spotlight on ineffective control procedures, work-making form design, time-consuming methods of writing and handling forms.

And in a minimum time, without upsetting office routine, Standard Register is ready with specific recommendations—the kind that have effected five and six figure savings for many leading companies.

Would you like additional facts about Standard Register's business systems—and the Formcraft-Designed Kant-Slip continuous forms that furnish you with better *working papers?* Write for Formcraft Digest D-190 which explains the above system.

PROBLEM: FIND THE AREA WHERE SAVINGS COUNT MOST

Cost of printed forms: Savings as high as 10% in this area (because of difference in quality of paper, carbon, etc.) are relatively small. A few hundred dollars *at most.*

Cost of completed records: A 10% saving in the cost of writing, handling and using forms is 10 to 50 times greater, often runs into four figures.

Cost of the business operation, controlled by written systems: In this area, savings may multiply themselves into almost incalculable figures—through better management control.

THE STANDARD REGISTER COMPANY

Manufacturers of Record Systems of Control for Business and Industry

1107 CAMPBELL STREET, DAYTON 1, OHIO

Pacific Coast: Sunset McKee-Standard Register Sales Co., Oakland 6, California. Canada: R. L. Crain Limited, Ottawa. London: W. H. Smith & Son, Ltd.

YES . . . to improve your service

Progressive and continuous improvements in service are required to meet today's accelerated competition.

For example, Electrification meets these needs in suburban service by providing:

1. More rapid and more comfortable service by use of multiple unit trains.
2. Increased terminal capacity by reduction of train movements.
3. Economy in operation.

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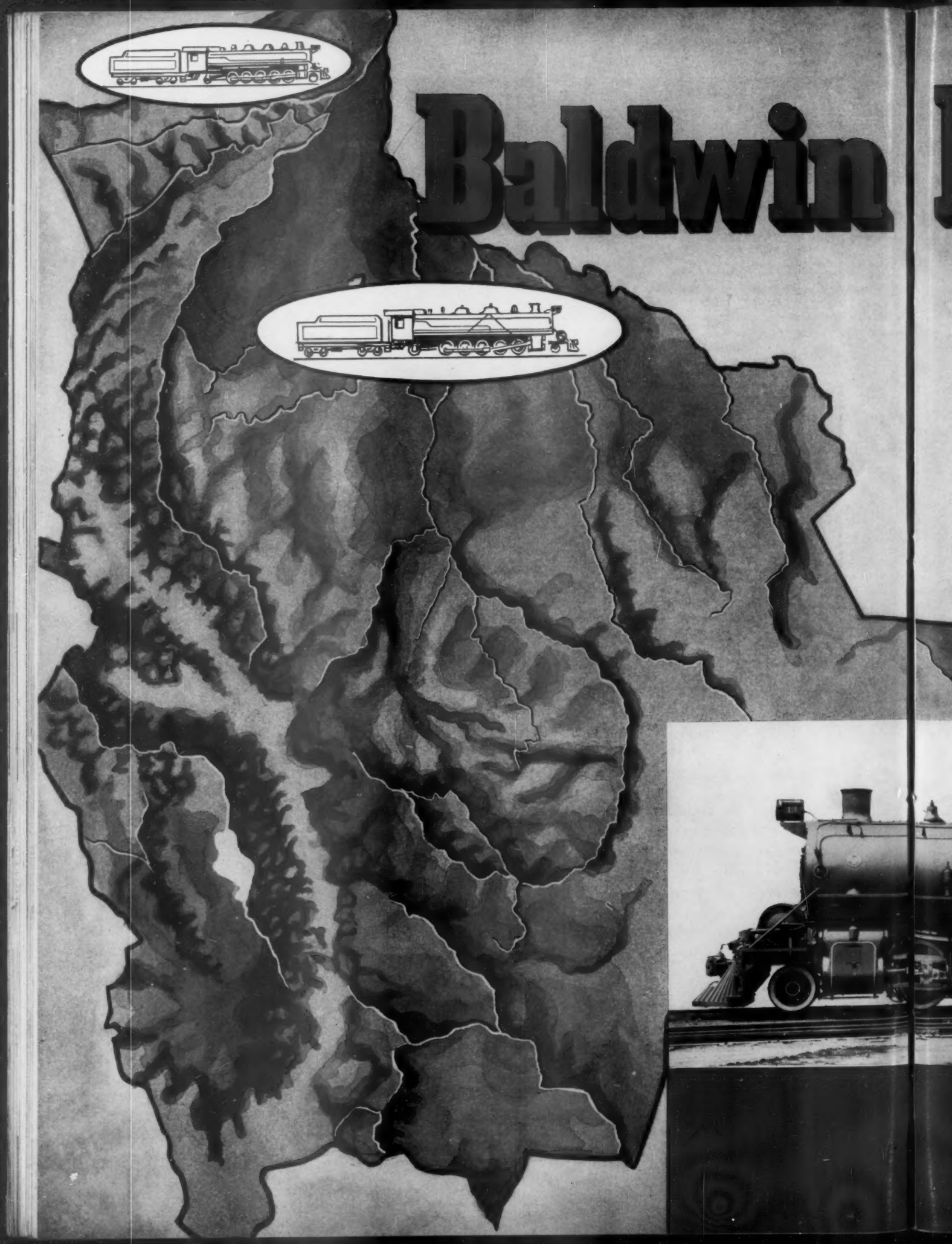
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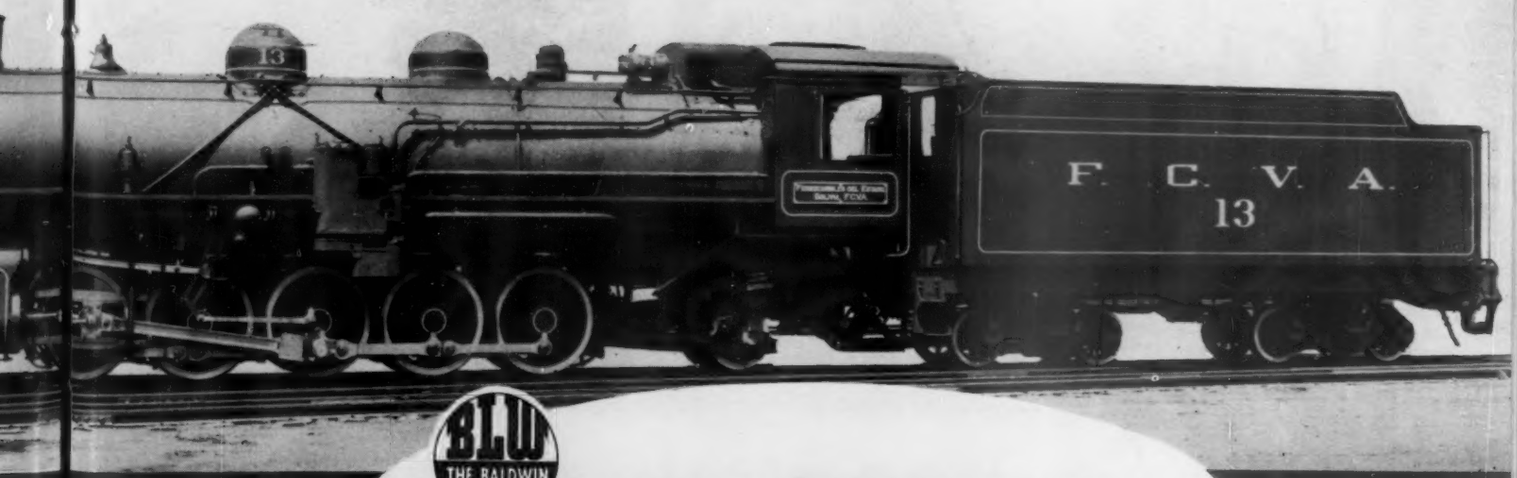

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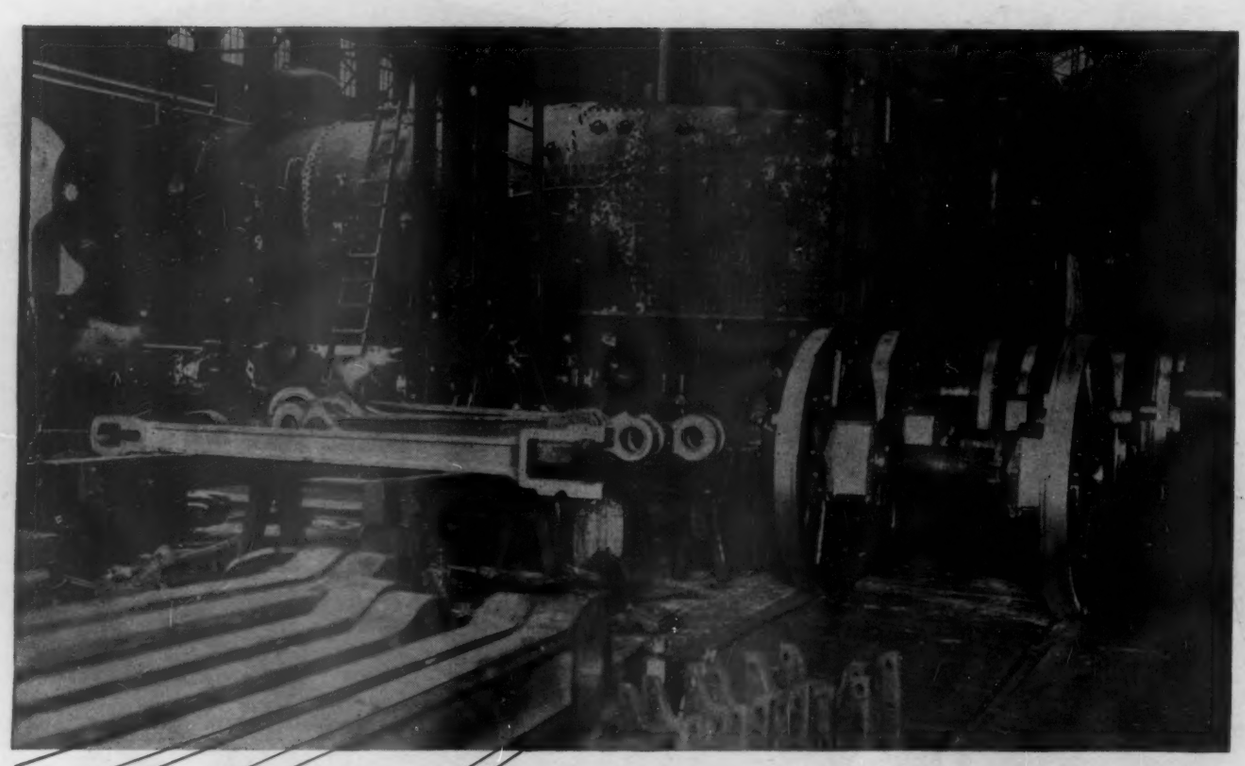

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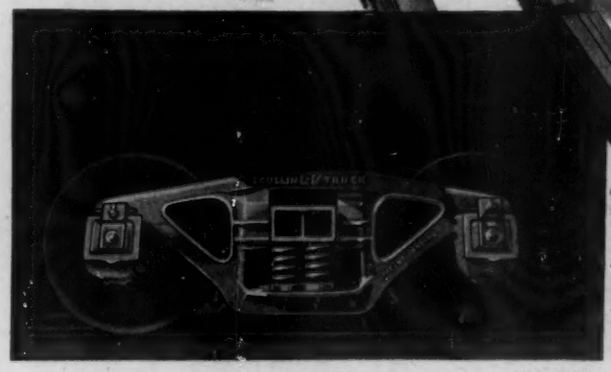

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Planning for new passenger equipment embraces a long look ahead — as the future is always uncertain and a passenger car has a long-useful life. Will it run on close schedules? Will new competitive forces intrude and perhaps compel still closer schedules? Will braking be adequate? Will equipment be safeguarded at the higher speeds?

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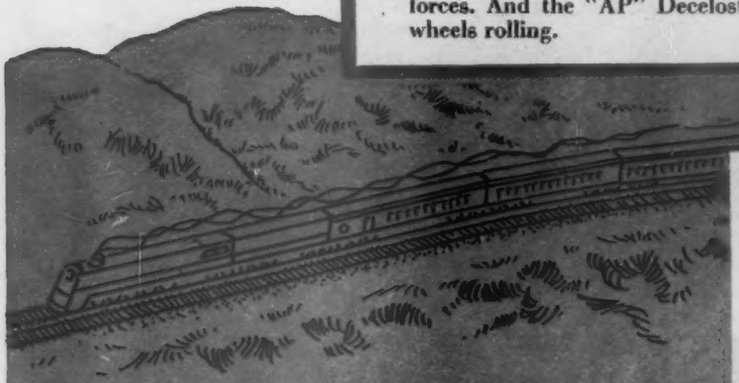

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Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 121 July 13, 1946 No. 2

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Present and future operating problems are scrutinized by committees of the American Association of Railroad Superintendents, which suggest means of solving them.

Small Town Station Goes Ultra-Modern **48**

Something new in passenger stations has appeared on the C. & O. at Prince, W. Va. It embodies such features as solar orientation, radiant heating, scientific air purification and circulation, and other appointments insuring the comfort of the traveling public.

Elimination of Locomotive Smoke **51**

Abatement of smoke from coal-burning locomotives was the subject of several addresses at the thirty-ninth annual meeting of the Smoke Prevention Association of America.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

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WITH "UNION" C.T.C.

YOU MAY NEVER NEED THAT OTHER TRACK

War's end found American railroads carrying the greatest volume of traffic in history. They were producing almost twice the ton miles and three times the passenger miles achieved in 1929, *on less miles of railway line!* The reason . . . largely because of modern signaling . . . and in many instances, "Union" C.T.C.

Long ago, Centralized Traffic Control showed that it could increase capacity of existing track—often between 50 and 75 percent—because it reduces unnecessary delays and expedites train movements so effectively. The war proved this conclusively. Now, many of those railroads which carried wartime burdens efficiently and without congestion, on existing trackage, are convinced that, with "Union" C.T.C., they can permanently shelve their pre-war plans for additional track. By so doing, they will have less track to maintain, less tax load to bear, and save far more than C.T.C. costs!

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The Week at a Glance

COUNTING THE COST: It is technically possible so to improve the design and construction and handling of freight cars that substantially as much protection from shock will be afforded the lading as is afforded travelers in passenger cars. If such improvements should be made, payments for loss and damage claims (they totaled $100 million last year) would be very much reduced. But the attainment of that reduction, through better car design, would be expensive, and one of this issue's editorials asks how far the railroads can afford to go in that direction for the sake of fewer damage claims and more shipper good will.

●

A YEAR'S GRIST: Despite the fact that critical conditions growing out of strikes and traffic congestion made it impracticable to hold an annual superintendents' convention this year, that association's active and alert committees have submitted their reports for executive committee acceptance. The abstracts appearing in this issue clearly indicate the wide range and economic significance of the work these committees are doing. One deals with ways to hold net freight train loads at levels higher than prevailed before the war; another with the best practices for restoring traffic speedily after accidents; a third with means to meet the post-war competition for passengers; still another with placing physically handicapped employees; and one is full of suggestions to make it easier for maintenance of way officers to find enough help of the right kind and to keep it when it is found.

●

IN WHOSE INTEREST?: Appearing at the Federal Power Commission's natural gas investigation, the railroads in effect have put up to that agency the question of the national interest in preserving all forms of transportation (including the railroads) in contrast to the special interest of certain areas and certain industries in the development of pipelines to transport gas in competition with rail-hauled coal. Details appear in the news pages.

●

WHAT MANNER OF MEN?: Even today schoolboys are taught that Henry Clay said he would rather be right than be President. It can be predicted with some assurance that quite a few of the members of the Congress that is now facing an early appraisal of its merits at the hustings will not go down in history as such staunch defenders of principle. In fact, recent events, recorded in our news pages and commented on in the leading editorial, might lead a thoughtful observer to wonder whether some, at least, of the nation's representatives have been gifted with sufficient discernment to recognize a principle if they should be so unadroit as to meet up with one. That uncharitable suspicion would be related, of course, to the question whether these congressmen are, in fact, anthropic or chameleon. The chameleon is not expected to come to an honest and firm conclusion in the light of the available facts and with the guidance of the best informed minds. Nature has not bestowed upon the chameleon any great ability to distinguish between what is right and what is expedient. The chameleon's chief distinction, indeed—and the means by which it survives the hazards of a cruel world—is its ability to change color to suit its surroundings. A philosophical observer might discover some relationship between these biological facts and the vote in the House of Representatives on the bill to give railroad men more "social security" than other workmen. In the sheltering anonymity of a "committee of the whole" vote, of which no record is made, enough members recognized the iniquities of the Crosser bill to vote it down. But the recorded and final vote reflected a sudden reaction on the part of some congressmen to the corrosive and unwavering gleam from the eyes of watchful union lobbyists. Many representatives did not vote at all. The bill passed, word for word as dictated by the brotherhoods.

●

HOT POTATO: Now the members of the Senate have an opportunity to earn the railway brotherhoods' relentless enmity or their energetic support. They also have an opportunity to approve, or to reject, this proposal to set one group of employees further apart from all others as a special class of beneficiaries, at tremendous expense to their employers and, ultimately, to the great majority of citizens whose own "social security" opportunities are so much less abundant. Against the pressure of union selfishness the Senate can, if it so wishes, weigh at least one very important consideration of major public concern. If these special benefits for railroad men become law, similar—or still more exaggerated—special benefits for the highly organized workers of some other industry or trade inevitably will be demanded. That process can go on almost without end—unless the national economy should break down under the staggering load. Taxpayers and business men, meanwhile, are almost unanimous in their lack of knowledge about, and lack of concern over, this latest "grab" by an organized minority. The Senate can be expected to be informed, and to appreciate the seriousness of the decision the brotherhoods hope to force it to make.

●

STREAMLINER STATIONS: An idea of what the smaller passenger station of the future may be like is conveyed by the description in this issue of the facility at Prince, W. Va., recently completed by the Chesapeake & Ohio. As pointed out editorially, many dingy-looking buildings of the General Grant period, even though they may still be structurally sound, and more than adequate so far as cubic capacity goes, just do not go with slick streamliners and progressive policies. When construction is set free again from the restraints with which the do-gooders in Washington have fettered it—and when federal and state government agencies get around to putting freight rates at a level where railroads can go ahead with desirable but deferrable expenditures—it can be expected that many new stations will be built and many old ones will be renovated in keeping with the trains that serve them.

SMOKE ABATEMENT: Measured by the activity with which it is undertaking research and the frankness with which it is facing its problems, no industry is working harder than the soft coal industry to try to develop new outlets for its product and—in the face of adverse labor conditions and some very tough and progressive competition—to hold the outlets it already has. A news story in this issue summarizes very briefly the proceedings of the annual meeting at which the progress of the industry's research program was reviewed. A corollary development in which bituminous producers and marketers are basically concerned is the prevention of smoke resulting from the imperfect consumption of that fuel. An article this week on page 51 deals with those aspects of smoke prevention with which the railroads are most directly associated. It gives in abstract form the views of speakers at the recent Minneapolis meeting of the Smoke Prevention Association of America, and outlines the plan and operation of the system of automatic controls for overfire air jets developed by the Westinghouse Air Brake Company.

●

PURE COINCIDENCE?: On June 20 a federal agency authorized a freight rate increase on soft coal in the neighborhood of 8 cents a ton, so permitting the railroads to take in a little more revenue. On June 21 another federal agency authorized a price increase on soft coal amounting to about 40 cents a ton, so augmenting the expenses of all railroads using that fuel.

●

TIE HANDLING: An up-and-coming crosstie treating plant in Georgia (despite the fact some of the local politicians say industry is stagnating there because the railroads have "conspired" to keep freight rates out of line with other sections) has designed, developed and put into regular operation a completely integrated man-saving system for the mechanical transfer of green ties from the receiving track through the seasoning yard and the adzing and boring mill to the treating cylinder. The installation embraces five principal units: unloader; stacking machine; transfer cars; an oversize straddle truck capable of toting a rick of 127 ties at one time; and a second unloader. The arrangement and operation of this system are the subject of an illustrated feature article.

●

CATASTROPHIC COLLAPSE: In the first five months of 1945 the net income of Class I roads was over $261 million. In the same period this year there was no net income at all, but a deficit around $40 million, according to A. A. R. estimates reviewed in our news pages. In the same period gross declined 23.5 per cent while operating expenses declined 3.2 per cent. Sixty-nine Class I roads failed to earn interest and rentals for the first five months of 1946. In the 12 months ended with May (including, therefore, a period of capacity traffic before the war ended and a longer period before the wage increases became effective) the rate of return averaged only 1.88 per cent, the A. A. R. calculates.

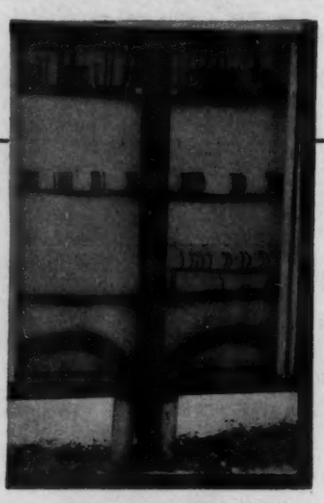
REMOTE CONTROL ON THE ERIE

ERIE

from KOUTS to WILDERS, IND. (7.4 miles) . . .

1. A 7-MILE REACH VIEW IN CONTROL TOWER AT KOUTS, IND

2. SIGNALS FOR BOTH TRACKS AT FIRST INTERMEDIATE



3 WIRING IN COMPARTMENT ON REAR OF INSTRUMENT CASE.

4 INSIDE WIRING OF INSTRUMENT CASE.

• The Erie's just-completed replacement of an electric interlocking with one that combines automatic and remote control is a forward step for speeding traffic with greater safety. Wires and cables furnished by Okonite throughout include Okonite underground cables with steel tape as well as wires insulated with Okolite and covered with non-flammable Okoprene.

• There's an Okonite product for every wire and cable requirement in signaling and other railroad applications. The Okonite Company, Passaic, N. J.

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insulated wires and cables

RAILWAY AGE

The Leopard Has Not Changed His Spots

By its action in approving the Case bill, and almost overcoming the President's veto of that measure—which would have deflated somewhat the arbitrary power being recklessly wielded by organized labor—Congress went a long way toward regaining its reputation for public spirit and a sense of responsibility, from the nadir to which it descended in the "rubber stamp" days of the New Deal.

Last week, however, the House of Representatives demonstrated that, once the public's back is turned, the majority of Congressmen are the same weak creatures in the hands of a union lobby that they have been for so many shameful years. It takes the spotlight of publicity—and a "public interest lobby" big enough to overwhelm special interest lobbyists—in order to induce Congressmen to continue behaving as men of integrity, as representatives of all the people rather than of an active and ruthless minority.

This unhappy demonstration of Congress' continued subservience to union pressure came in House action approving the so-called Crosser bill, H. R. 1362, greatly liberalizing railroad pension, unemployment and other so-called "social security" payments—which are already so generous that they have set railroad employees apart as a special class, privileged by law above all other Americans in the relief they receive from the economic hazards of terrestrial existence. When the Crosser bill was introduced, it was referred as a matter of course to the House committee on interstate and foreign commerce, which gave extended and intensive study to the measure, as a result of which it reported a substitute bill of its own, which would have liberalized pension payments to the extent of about $65,000,000 a year (as compared to the Crosser bill's $260,000,000 more in pension payments, plus $64,000,000 additional in unemployment benefits).

Association vs. Ability

Social security legislation is always complex. That is to say, the average Congressman cannot hope to understand the details on which he is asked to vote. He *has* to be guided in his vote by the advice of such of his colleagues as *have* studied the legislation and know what it is about. No committee chairman in Congress enjoys or deserves a better reputation than Chairman Lea of the House committee on interstate and foreign commerce for integrity, thoroughness, and domination by regard for the public interest. A veteran of 15 terms in Congress and with many years' experience on the interstate commerce committee, six years as its chairman, he has been elected to Congress for 13 terms as the nominee of both the Democratic and Republican parties in his California district. Members of Congress are perfectly aware of the dependability of Mr. Lea's counsel. They are equally well aware of the caliber of Congressman Crosser, i. e., that his function is primarily that of a transmission belt, conveying legislation to Congress exactly as the unions have written it. One of Mr. Crosser's associates in progressing his bill was Congressman Marcantonio from New York, notable chiefly for his faithful adherence to the Communist "party line."

Following a Familiar Path

Yet, in the full recognition that they were subjecting a deservedly respected colleague to humiliation and were refusing his advice at the demand of mere spokesmen for special interests, the House last week rejected Mr. Lea's recommendations by a vote of 180 to 108 and approved the Crosser bill "in the form desired by the railroad workers" by a vote of 234 to 49.

What happened, of course, was that—since this bill mulcted only one industry—it did not attract general opposition. Business men as a whole knew little about it and cared less. With no light of publicity upon them, most Congressmen went right back to their old New Deal habit of approving pro-union legislation just as received from union headquarters, without so much as crossing a "t" or dotting an "i." If the other unions are as smart as the railroad unions—and as unmindful of the welfare of the nation as a whole—they, too, will now foster separate social security legislation, and a special social security board, for each industry. If they will do this in the automobile industry, that industry may complain but no other industry will object. There will be little publicity, so Congress will be able to follow safely its natural inclination to yield to the unions exactly what they want. Then coal, then iron and steel, the construction trades, and others can follow one at a time. It is estimated that one-fifth of the national income will have to be devoted to social security pay-

ments if benefits as generous as those proposed for railroad workers are made general. "Divide and conquer" is a slogan that the unions are able to apply with repeated success, because none of those who are allegedly trying to preserve the solvency of private enterprise appear to have the vision or the spirit to act defensively except when their own particular interests are in immediate danger.

Building Developments

No one can say with certainty what the appearance and appointments of the up-to-date passenger station of the future should be. On the other hand, there is little question in the minds of most progressive railway officers that many improvements are available, compared to the standards displayed by many existing stations.

With the steady improvement of passenger service, and, with the public more conscious of modern designs and materials because of the attention being focused on the home-building industry, any but the most up-to-date designs and materials in future station construction and modernization are certain to be judged inadequate and as a sign of backwardness or willful neglect. The railroads cannot afford to risk creating such an impression on the public mind, and should keep this consideration constantly in view as they plan enlarged programs of station modernization and replacement, with relief from the Civilian Production Administration restrictions that now hold up any sizeable projects of this sort.

Never before has the railway architect or building engineer had so many new ideas, materials and specialized facilities at his disposal for making stations light, airy, comfortable, convenient, pleasing and serviceable. He can draw upon new concepts in general architecture, expressed by the more generous use of horizontal lines and the absence of ornamentation; new principles in the use of color for interior decoration; radical developments in functional and decorative lighting; new methods of heating, cooling, ventilating and temperature control; new interior finishes, incorporating improved features of utility, appearance, sanitation and sound absorption; new furnishings, affording increased comfort and restfulness; effective paging and train-announcing systems; electrically-operated doors; and a large number of other building developments for special purposes and services.

No one would suggest that all of these improvements should be incorporated in all new station construction and modernization, but sight should be lost of none of them, and where they are warranted, they should be considered seriously in the interest of the public and enhanced good will toward the railroads. Public opinion toward the railroads is largely a matter of *impressions,* rather than of the thoroughly informed understanding, and no other one feature about a railroad is quite so likely to determine the public's impression of the industry as an air of efficient modernity, or the lack of it, around passenger stations.

That some roads were already thinking in larger terms of improved stations in the years just prior to the war was demonstrated repeatedly by the numerous stations rebuilt or completely modernized at that time—work that was carried over into the war period to the extent permitted by building restrictions, and often in the face of serious shortages in materials. As evidenced in a number of new stations completed recently on several roads, including that of the Chesapeake & Ohio at Prince, W. Va., described in this issue, with its trim architectural lines, fireproof construction, solar orientation, radiant heating, ultra-violet lamps in the lavatories as a protection against bacteria, and modern train-announcing system, the trend is continuing, and is certain to expand in the future. Streamlined trains and services, on the one hand, and outmoded, inadequate stations on the other, just do not go together.

Smoke Prevention

Artists, to give an impression of movement and activity—and for artistic purposes also—are inclined to picture volumes of smoke issuing from locomotive stacks. Occasionally, and it happened again only recently, such a picture will appear in our advertising pages, bringing invariably a stiff and justified protest from some of our readers. Thick smoke is evidence of inefficient combustion, and, also, as railroaders well know, is keenly resented by the public. While the railroads are not the worst offenders in this respect, public authorities in urban areas are inclined to single them out for attention.

Electrification of railroads has brought some relief in some metropolitan districts and the Diesel-powered locomotive has also been looked upon with favor because of its smokelessness. The railroads, however, have a large investment in coal-burning locomotives; moreover, many of them serve coal-mining districts and it is to their interest to favor the coal producers. As our readers well know, the coal producers, together with some of the railroads, have combined to spend a large amount of money in research, in the effort to perpetuate coal-burning locomotives. While increased efficiency in the use of fuel is an important factor in this respect, greater availability for service and smokeless combustion are also of special importance. Research in locomotive smoke abatement has already proved quite effective, as was demonstrated at the recent meeting of the Smoke Prevention Association at Minneapolis, Minn., which is reported elsewhere in this issue.

The Coal Producers Committee for Smoke Abatement, representing several large coal-producing districts and five large railroads, realizing the vital necessity for smoke prevention in urban districts, has tackled the problem aggressively and advocates the adoption of workable smoke abatement ordinances. As explained by H. B. Lammers, director of engineering of the Coal Producers Committee, in an address at the Minneapolis meeting, it is "assisting not only those cities which have never had a smoke department, but also those organizations which have been understaffed, as well as those which have been ineffectual for lack of a proper ordinance". Such action by the coal producers may appear surprising, but it is done deliberately in the interests of the preservation of that industry, a matter in which many of the railroads are deeply concerned.

He's Up—He's Down

Just about everything that could go wrong with equitable car distribution has occurred this year. For example, in normal years, the estimates of the winter wheat crop are sufficiently reliable and accurate to enable the railways serving the territory to prepare in advance for the amount of wheat they will have to handle. This year, in the face of serious shortages in cars suitable for wheat loading, the weather has thrown the crop estimates considerably out of line in many cases.

For example, the Kansas wheat crop, which was actually 208 million bushels in 1945, was estimated on April 1 to be somewhat over 212 million bushels for 1946. Adverse weather caused the experts to cut their estimate to 168 million bushels on May 1, and on June 1, more favorable weather conditions caused them to raise it to 187 million bushels. Once the harvest began, however, much better weather was encountered and a special government estimate on June 14 raised the crop figures by 12½ million bushels. The figures are still going up. For the entire winter wheat territory, it now appears that the 1946 crop will exceed the bumper harvest of 1945 by some five million bushels.

Even when the supply of high-class box cars is adequate, the car distribution to the winter wheat territory is largely predicated upon the government crop estimates. Empty car distribution for the wheat harvest is based on so many factors that it cannot be changed from hour to hour or day to day.

Entirely apart from other unfavorable factors, the wheat situation certainly supports Colonel Johnson's recent statement that "unless the car situation eases and promptly, an order will be issued in substance requiring railroads to remove all box cars made empty at industries within 24 hours after they are released by the industry." It also lends support to the suggestion of the director of the O. D. T. that the agency's maximum-loading orders be rewritten and issued as service orders of the Interstate Commerce Commission. The "chaotic" car conditions which Colonel Johnson predicts are, unfortunately, likely to occur unless remedial action is taken by everyone interested in railroad transportation.

The Last Word in Freight-Car Design

The railroads have long had to deal with the problem of providing suitable containers and effective stowing of packaged freight moved in box cars so that it will not suffer damage caused by the shocks of normal handling in yard and train service. The fact that payments for loss and damage claims jumped from $22,000,000 in 1941 to $100,000,000 in 1945 shows how far good packaging on the part of the shipper and good stowing in cars has gone in keeping these losses under control. It also shows how quickly damage can multiply whenever supervision and standards of performance are relaxed.

Since this increase in loss and damage occurred during a period in which there were no changes in the character of the rolling stock involved, it might be inferred that the freight car itself is not responsible for any part of the increase. Such a conclusion, however, is questionable. Because packaging and stowing, carried to a sufficiently high degree of perfection, can offset the effect of shocks to which the lading is subjected in normal service, there is poor justification in that fact for an attitude of complete complacency with respect to present attainments in freight-car design. Indeed, few responsible railway officers have allowed their imaginations to toy with the thought that no standard of protection of the packaged contents of the freight car is completely satisfactory which is less effective than that provided for passengers.

Can such a standard ever be attained? From the standpoint of the technical aspects of car design, it can be attained, just as it has been attained in passenger cars. But the real problem is economic, not technical. How much can the railroads afford to pay for the elimination, or amelioration, of the shocks now a part of normal car movement? Can the designs be altered to produce the desired degree of protection within these economic limits?

The Importance of Impressions

Railroading in this country is a business enterprise, part of the great system of individual opportunity which has made life in America what it is, operating on a self-supporting, tax-paying, business basis. We shall always have railroads in this country, because there is nothing in existence or in sight which can take their place as the essential mass transportation of a continent. But the future of railroads as part of the American business enterprise system depends upon public policies, and public policies depend upon public sentiment, and public sentiment depends, to a great extent, upon what sort of impression the public has of the business.

Most people have no precise knowledge of railroad statistics, or of transportation policies and problems, and they never will have. But almost everyone has an impression about these things. He feels that the railroads are essential, or the reverse. He feels that the railroads are enterprising or stagnant, or somewhere in between. He feels that railroads are doing a good job or a poor job, or perhaps just a fair job. He forms these impressions from his own contacts with railroad service, perhaps as a shipper, more likely as a passenger. And millions of persons, who have little or no direct contact with the railroads, form their impressions of them from what they hear or what they read.

We have just seen through the war years how important it is to put before the public the facts which help to form and shape their impressions of railroads. People who had difficulty getting on trains, who perhaps had to stand after they did get on, and who almost certainly had to stand in line to get something to eat, such people who had been seeing railroad service below standard, united in praising railroad performance.

They did it because they had been informed, in advance, of what conditions were like, and why. They had been told the nature and size of the railroad job, and the conditions under which it was being done. And because they had been told, they understood and formed an impression of railroads quite different from what it would have been had they had nothing to go on but their own limited contact with the service.

—Robert S. Henry, assistant to president, Association of American Railroads, in an address at a New York meeting of the Railway Business Association.

Superintendents Look into the Future

Committees of Superintendents' Association subject current and future operating problems to critical analyses and suggest courses for corrective action

AS in the war years, the American Association of Railroad Superintendents was unable to hold its annual convention this year due to the difficulties brought about by the rail strike. However, the committees completed their studies and submitted their reports to the executive committee which accepted them. They will be published in full and distributed to the members. Abstracts of these reports follow.

Stating that the problem of increasing the payload of freight trains is of utmost importance in determining net income, Committee No. 1, of which L. B. Kendall, assistant general manager, Chicago & North Western, Chicago, was chairman, presented charts showing that from 1919 to 1932 there was a steady decline in the number of net ton-miles per train-mile, in net ton-miles per car-mile and in the percent loaded of total car-miles. From 1932 to 1942, the committee said these performance indices showed only slight improvement, while the intensive car utilization programs of World War II resulted in substantial improvements. In another chart it was shown that although gross ton-miles per train-hour increased rapidly throughout the entire period, net ton-miles per train-mile increased only slightly until 1940, indicating clearly that although train speeds increased rapidly, little improvement had been made in securing better loading of trains. In a final series of graphs, it was shown that although the average car capacity increased consistently throughout the period of the study, the percentage of that capacity that was utilized declined rapidly until 1932, then remained at a low level until 1939, when it rose. At the same time the net ton-miles per loaded car-mile dropped until 1932, then remained at a relatively low level, although slowly rising until 1941, when it took a sharp upward turn.

Inadequate Returns

"A study of these charts and curves proves conclusively that while we have been building freight cars with greater carrying capacity, we have failed to take the necessary steps to get adequate benefits from the better working tools placed at our disposal as a result of technological improvements in our industry," declared the committee. Inquiring into the causes of this condition, it finds that competition both from within and without the railroad industry is the major factor. Special types of cars, essentially for "one-way" traffic, high-speed, low-tonnage freight trains, and lower minimum carloads resulting from this competition are given as direct causes of these conditions.

Reduced grades and curves, centralized traffic control and modern power are among the factors that enable the railways to increase net-ton miles per train mile

Recommended Methods

Admittedly, the roads cannot afford to sacrifice large volumes of traffic to maintain theoretical efficiency averages, but the committee does suggest several means of maintaining net train loads at higher levels than prevailed prior to World War II.

There should be closer supervision of the movement of empty cars so that empties do not pass loads they can carry, the report points out, and it recommends continued use of various types of cars for commodities not previously handled in them, such as hopper cars for grain, etc. The decentralization of industry, it points out, by increasing the number of plants in small towns, will increase the opportunities for return loading of empty cars.

Lighter weight freight cars are also recommended, as being of assistance in increasing the ratio of net ton-miles to gross ton-miles, although the report concedes that this will result from a long range program and cannot be expected to be of immediate assistance.

Higher carload minimum weights are looked upon with favor by the committee, although it recognizes the difficulties in attempting to persuade shippers to accept such minima. The group suggests that the economic benefits from higher minima are so great that the roads can well afford to share these benefits with shippers in the form of lower rates where high minimum weights are offered.

Other suggestions are: New, more powerful locomotives; improvements to road, such as reduction of grades and curves, modern signals, etc.; establishment of accurate locomotive tonnage ratings, using dynamometer cars where possible; accurate calculation of train tonnages, especially in figuring tare weights; good maintenance of cars and locomotives to avoid delays and failures on the road; competent car distribution to avoid cross-hauling of empties; proper scheduling of passenger, manifest, dead freight and local freight trains to produce the maximum gross and net

ton-miles per train-hour on each district; and "constant and continuous supervision by alert division officers."

Clearing Derailments

The committee on "Modern practices in clearing up derailments and restoring traffic after accidents" of which W. A. Hurley, assistant to general manager, New York, New Haven & Hartford, Boston, Mass., was chairman, reported that the methods used in handling derailments depended on the following circumstances:

Whether or not personal injuries or fatalities are involved;

Whether the scene of accident is on a single or multiple track line;

Availability of detour routes; and

Weather conditions, topography, and accessibility to highway vehicles.

Immediate ordering of the tool train by the chief dispatcher is recommended, even if it may be necessary later to cancel it, with a departure from the terminal within one hour as the goal. As an aid to prompt departure, those concerned with ordering the train must be supplied with an accurate list, showing names, addresses and telephone numbers, of all men assigned to the tool train and a similar list of various division officers who may also be needed.

The committee suggests that, once at the scene, constant communication with the chief dispatcher should be maintained either by field telephone or by two-way, portable radio equipment. A bulldozer is suggested as a particularly valuable piece of wreck train equipment to aid in clearing the track of trucks, debris and minor obstructions, and to aid in the prompt construction of "runaround" tracks where the topography will permit. Adequate fire-fighting equipment and a supply of gas masks are also considered essential items of tool-train equipment.

Responsibility for handling the wreck must be delegated to one person and all suggestions, the committee holds, must be passed through him. The practice of permitting numerous officers to give instructions is said to lead to confusion and loss of valuable time. Records of the hours of service of all train and engine crews are necessary so that proper relief can be arranged. The report also stresses the need for relief of the wrecking crew itself so as to provide for adequate meal periods and additional forces if the job is to be of long duration.

Modern, lightweight, streamlined passenger equipment powered by high-speed locomotives is expected to aid the railways in their efforts to develop profitable passenger traffic

Dependable service; fast and convenient schedules; safety in operation; low competitive rates; safe, clean, comfortable, modern and attractive equipment; clean, modern and efficient station facilities; courteous and efficient personnel; good dining service at reasonable rates; development of cordial public relations; development of branch line service; and advertising to bring to the attention of the public the advantages of rail travel—these are suggested as the primary requirements, if post-war passenger competition is to be met successfully, by a committee of which F. B. Hank, assistant to vice-president and general manager, New York Central, New York, was chairman.

The committee points out that total volume of passenger travel, measured in passenger miles, increased five times from 1923 to 1941, falling off slightly during World War II. On the other hand, the railways' share of that traffic (more than 50 per cent in 1923) declined steadily until 1931, then remained nearly static at about 10 per cent of the total until 1941 when it rose sharply to about 30 per cent in 1943 and 1944. From these figures the group concludes that the problem is not to stimulate a desire to travel but rather to persuade people who already have that desire to travel by rail.

"On-time" performance is considered by the committee to be a major factor in promoting rail travel and it recommends careful analysis of train delays and train performances over periods of a month or more. It suggests that the causes for train delays may be grouped so that those of most importance can be determined and corrective measures applied. The report suggests that recurring terminal and station delays may be the result of improper scheduling, or of poor performance on the road, which while not serious in itself, leads to bunching at terminals.

Faster schedules are considered desirable, but the committee points out that for long journeys the railroads cannot hope to compete with the air lines on a speed basis. On the other hand, it believes that much over-night business travel to points up to 1,000 miles can be held to the rails by good promotional methods, plus good service, as fast trains virtually eliminate lost business time on many such trips. Under present standards, the committee does not expect to see regular train speeds above the 100 m.p.h. level, although it concedes that higher speeds are possible under special conditions.

It suggests that faster schedules will primarily be brought about by removal of speed restrictions, elimination of stops, reduction of station work and reduction of the "contingent time factor" made possible by better operating procedures which cut down delays enroute. The report also commends the recently inaugurated coast-to-coast Pullman service and recommends that studies be made looking toward its extension to coach passengers.

Safety is considered by the committee to be one of the railroads' strongest points in selling passenger transportation. It quotes National Safety Council figures which show that the railroads' 1944 passenger safety record of about 0.25 per 100 million passenger miles is equaled only by that of the bus industry while it is 10 times better than that of the air lines and 15 times better than that of the private automobile.

The report considers the matter of rates at some length, pointing out the profit possibilities in well-filled trains even at low rates and contrasting the cost of handling masses of people by rail, highway and air. It states that "the railroad can best and most profitably function in producing mass transportation," and that this field lies in low-fare coach travel rather than higher-priced, Pullman, de luxe travel. However, the belief is expressed that there will continue to be considerable demand for Pullman-type accommodations.

New Equipment to Help

Modernized equipment is expected by the committee to assist the rail carriers in holding passenger traffic, and it points out that since nearly 50 per cent of the existing passenger cars are more than 25 years old and only 4 per cent are less than 10 years old, the opportunities for placing new, modern equipment in service are vast.

New passenger equipment is expected to be largely of lightweight construction, enabling either faster schedules while maintaining present capacity, increased capacity while keeping present schedules, or reduced motive power requirements with unchanged schedules and capacity. Improved seats, air-conditioning systems, lounge and smoking facilities and lighting are expected to be major items affecting passengers' comfort. The development of train loudspeaker systems for calling stations, announcing meal service, etc., is also anticipated. In the field of sleeping cars, the group expects to see all-room cars gradually displace open-section cars except in tourist service or where hired by special parties. At the same time it points out that the potential occupancy of one all-room car now being built in quantities is such that room rates can be lower than present lower-berth fares.

While the committee does not expect many large, new passenger stations to be built in the immediate future, it believes that many existing stations will be modernized. In either event it recommends that careful study of today's requirements be made with a view to making the facilities as convenient and attractive as possible. It suggests that facilities for passengers be arranged in the sequence in which they are normally used, and that incoming and outgoing passengers be separated so far as possible. Concessions and auxiliary facilities should be confined to those actually of real service to travelers and should be so located as to produce a minimum of cross traffic within the station.

Adequate parking facilities and ample taxicab service are essential. Where possible it recommends the establishment of drive-yourself automobile service for railway patrons, such service to be advertised widely in timetables, newspapers, etc. Parcel checking lockers are recommended also. Proper care of washrooms and toilets is considered essential to good station operation.

Good employee-customer relations are held to be vital to building railway traffic. For station and train employees who use public address systems the committee suggests that special training in the proper use of these devices is desirable. Ticket and information clerks likewise are in need of special training, not only in technical matters of rates and services, but also in matters of courtesy to the public. Passenger train crews also need to be made aware of the necessity for courteous relations with travelers.

Use of Handicapped Employees

An intensive study of the utilization of handicapped employees to be made by the Association of American Railroads is strongly recommended by a committee headed by H. P. Dunlap, assistant to vice-president, Railway Express Agency, Chicago. In its report the committee says that while many roads have done excellent work along these lines, there has been little exchange of information among roads. It believes that a study by the A. A. R. or some similar group would insure closer cooperation and exchange of ideas with other roads and with those in government service in charge of this kind of work, and would result in a better plan than can be developed by any individual carrier.

In the meantime, the committee suggests that the roads adopt a plan similar to the following:

At the outset it should be recognized that because of the hazards inherent in railway employment any program adopted be restricted to those physically handicapped and exclude those with mental disorders. A central control agency is considered essential to the successful working of such a plan, such an agency to coordinate and direct the work and to endeavor to select qualified, sympathetic employees to serve as interviewers with the disabled employees. The control agency also would have the responsibility of selecting jobs which are suitable for such men.

The central control agency should be provided with a list of all jobs that can be filled by handicapped employees, such list to classify the actual physical requirements of every type of job, educational minima of the various jobs, special skills needed, etc. Job analyses should separate the requirements for starting a job from those needed for performing the work, as many handicapped workers can perform a task which they cannot set up. Concerning this list the report says: "Those making it should first disabuse their minds of preconceived ideas of limitations of the handicapped. This survey should be made without regard to the seniority provisions of existing working agreements. It is the committee's opinion that special agreements covering placement of disabled veterans can and must be reached with the various labor organizations."

The central bureau should also be sent detailed facts regarding the candidate for placement, including his physical capabilities, education, job training, experience prior to entering the armed services, military duties, new skills acquired, etc.

In assigning the man to a position it is important that the employee be made to feel that he is wanted and that he can be a valuable worker. Wherever possible placement should be in a position where the worker's handicaps will not only not interfere with his performance of his first job, but also will permit his being given the same opportunities for advancement as other employees. After placement there should be a follow-up, and if improper placement has been made there should be a prompt adjustment before the employee becomes discouraged at his inability to perform his task.

For those few whose handicaps are such that they cannot be fitted into any regular form of employment, the committee recommends that new kinds of work be found that will fit their abilities and yet be productive. A single example cited is the possibility of larger roads establishing a broom shop for the manufacture of warehouse and other brooms, now purchased, by employees who have suffered loss or impairment of sight.

Maintenance of Way Problems

The committee considering post-war maintenance of way problems, of which C. O. Hooker, superintendent, Great Northern, Superior, Wis., was chairman, declares that although the superintendent is not in control of all factors in connection with a maintenance program, the work is performed under his jurisdiction and he is therefore held responsible for the results.

It recommends that division officers keep in close touch with farmers and local high school authorities along the line as a source of maintenance of way department employees. Close check on returning soldiers is also suggested as a means of securing additional workers.

The committee considers the selection

and training of supervisors to be the superintendent's responsibility and recommends careful selection of alert and capable young men from among the foremen for further training for such positions as roadmaster and master carpenter. It also recommends that college men be sought out and given opportunities to learn maintenance of way work and qualify for supervisory positions.

Constant check to see that safe working conditions are maintained is also considered essential. Among the matters requiring checking are: The instructions supervisory employees give their men on flagging rules; regular examination of safety rules and compliance with these rules; condition of track motor cars, including the loading of tools on them; the proper securing of line-ups on trains before starting for work; and the use of safety shoes and goggles.

For Greater Efficiency

The committee believes that the use of buses to transport maintenance employees to and from the job daily will make it easier to maintain an adequate working force than if camp cars are employed. Where camp cars must be used they should be well maintained and kept clean. Close check on the quantity and quality of food should be maintained.

For the maintenance of safe track special attention should be given drainage, the material going to make up the sub-grade, the condition of ballast and the methods used in applying it, and tie and rail renewals. Close check on the condition of rails and track should be made periodically.

The use of mechanical equipment, particularly off-track machines, is said to result in large savings in maintenance expense and the committee holds that the superintendent has a definite responsibility to develop the maximum use of the machines available. Tractors with earth-moving attachments, air compressors, tie tampers, spike pullers, spiking and bolting machines, adzers, tie saws, flange and joint oilers, and various mechanical saws and drills are considered essential for economical maintenance, as are various types of cranes.

Each division should also have a work-equipment repair shop manned by a capable force of employees permanently assigned to this class of work. Where possible repairs should be anticipated so that parts can be made available before a machine is taken out of service, while other machines can be overhauled during slack seasons of the year. The committee recommends the assignment of a traveling motor-car repairman to each division to make minor repairs, thereby eliminating frequent shipment of various machines to centralized repair shops.

An important part of the superintendent's work is to see that a maintenance program for the season is prepared far enough in advance that the necessary materials can be made available to avoid delays to the work.

The primary responsibility for safety on any division rests with the superintendent, according to the report of the committee on safety, of which W. C. Barrett, retired chief of personnel, Lehigh Valley, Bethlehem, Pa., was chairman, but it recommends that each superintendent be given a staff officer assigned directly to the safety program on the division.

Self-preservation and economy, the committee says, are the two reasons why every employee should be interested in safety, although it finds that employees must be instructed in safety practices. All accidents can be divided into two basic classes, according to cause; those due to equipment failures and those resulting from human failure. By far the greatest number of accidents can be traced to human causes. To teach safe working habits and to inculcate the safety idea in the minds of the employees, the report recommends monthly safety meetings at which every injury occurring since the past meeting is analyzed as to its causes and methods of preventing a recurrence studied. Those attending the meeting should be encouraged to call attention to unsafe practices and equipment and prompt action should be taken to bring about a correction before an accident occurs. Equipment which is unsafe, the committee says, should be removed from service at once; likewise the man who cannot or will not observe safe working practices should be removed at once, both for his own protection and also for the protection of his fellow workers.

With regard to the relationship between safety and efficiency, the report declares that the two are synonymous. It points out that the safe employe is also the most efficient employee and can perform this work better and faster than the careless, indifferent employee. True economy is also held by the committee to be a necessary result of safe railroading. It points out that the cost to the company of a single personal injury or death may well exceed the cost of an entire year's safety program.

Since 95 per cent of all accidents are chargeable to human failures, the committee considers this the most important area for study. It states that employment of men of good character and intelligence is the first requirement for building a safe organization. Employment must immediately be followed by properly taught, valid safety instructions so that the worker learns safe work habits from the start. From that time on foremen or others in charge must continually direct and supervise the employees' activities toward safe practices.

On the part of management there is the responsibility to provide safe facilities, tools and equipment and to see that they are properly used and maintained. The committee believes that the organization of a division safety committee is the most efficient and successful method of conducting safety activities on a division or in a terminal of large size. Such a committee would hold monthly meetings and would include various supervisory employees and leaders of employee groups. Its work should be supplemented by local committees headed by freight agents, yardmasters or foremen. In addition, each supervisor should be required to talk to his men daily concerning some phase of safety.

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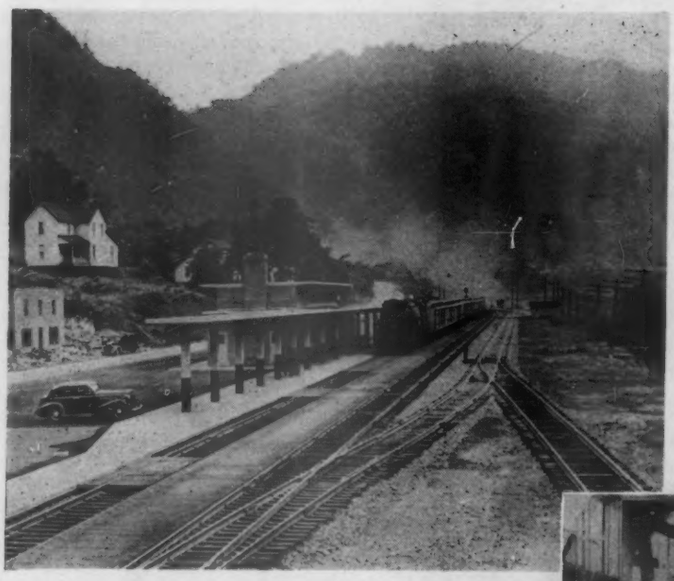
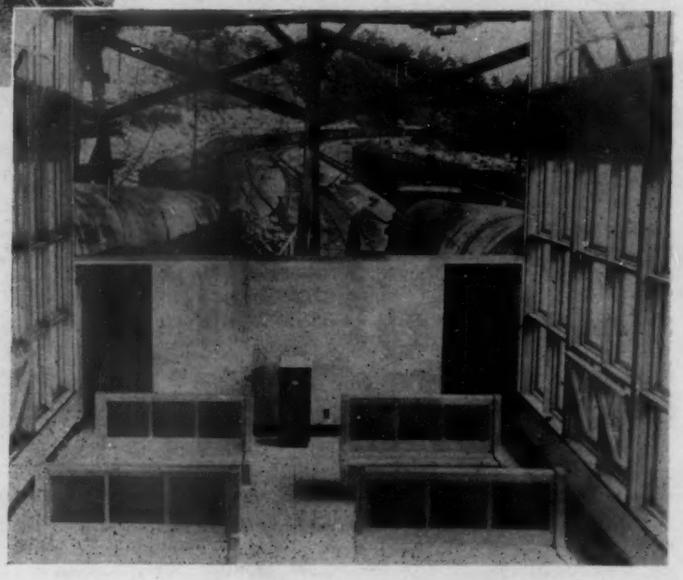
Great Northern logging trains, in freight yards, Tacoma, Wash.



Left—The new station at Prince, W. Va., establishes the probable pattern of the construction of the C. & O.'s future stations

Right—The agent's office, enclosed by plywood and triplex glass, is equipped with the announcing unit of a loudspeaker system used to notify passengers of their trains

Below—Photo-mural on the end wall depicts a scene typical of the coal-mining industry



New facility on the Chesapeake & Ohio, at Prince, W. Va., incorporates radiant heating and several other unusual features

Small Town Station Goes Ultra-Modern

WITH appropriate ceremonies, the Chesapeake & Ohio opened its newest and most up-to-date passenger station on June 26, a structure which is not only of trim modern design, but which, setting precedent in railway passenger station construction, incorporates such features as radiant heating, solar orientation, scientific air circulation and purification, and ultra-violet lamps in the lavatories as a protection against bacteria.

The new station is located in the town of Prince, W. Va., in the heart of a highly-productive bituminous-coal territory, which will be a stop of the streamlined passenger trains that are expected to be commissioned next year for service on the main line of the C. & O. between Washington, D. C., and Cincinnati, Ohio. It employs a pleasing architectural treatment in sharp contrast with the conventional, and deliberately avoids exterior ornamentation in an effort to achieve a type of structure with more enduring popular appeal. At the same time, it incorporates fire-resistant construction, several unusual features that stimulate the imagination, and interior appointments and daylighting which insure convenience and comfort for the traveling public.

General Dimensions

Rectilinear in plan and elevation, the station is 125 ft. long and 22 ft. wide, is one-story high, and has exterior walls of common brick faced with a reddish face brick. Sills and trim are of gray Indiana limestone, while the roof is a flat reinforced concrete slab, 4 in. thick, with projecting eaves, overlaid with 2 in. of Foamglass insulation and covered with tar-and-gravel roofing. The building throughout rests on a concrete foundation, and is without a basement.

Flanking the front of the station on the track side is a reinforced concrete, low-level passenger platform, 500 ft. long, which is afforded protection over part of its length by a reinforced concrete canopy of streamlined design harmonizing with the new building. Behind the station is a paved parking lot for patrons that accommodates 38 automobiles.

Occupying the center of the station is a waiting room, 55 ft. by 20 ft., with toilet rooms, a ladies' lounge and a utility room at one end, and a freight,

loud-speaker system, with the microphone in the agent's office and speaking units at strategic locations both in the building and on the platform, permits the agent to notify passengers of their trains. Other passenger conveniences in the station include parcel lockers; a telephone booth; six streamlined wooden benches, each seating six persons, equipped with plastic-fabric back cushions; and an electrically-cooled drinking fountain.

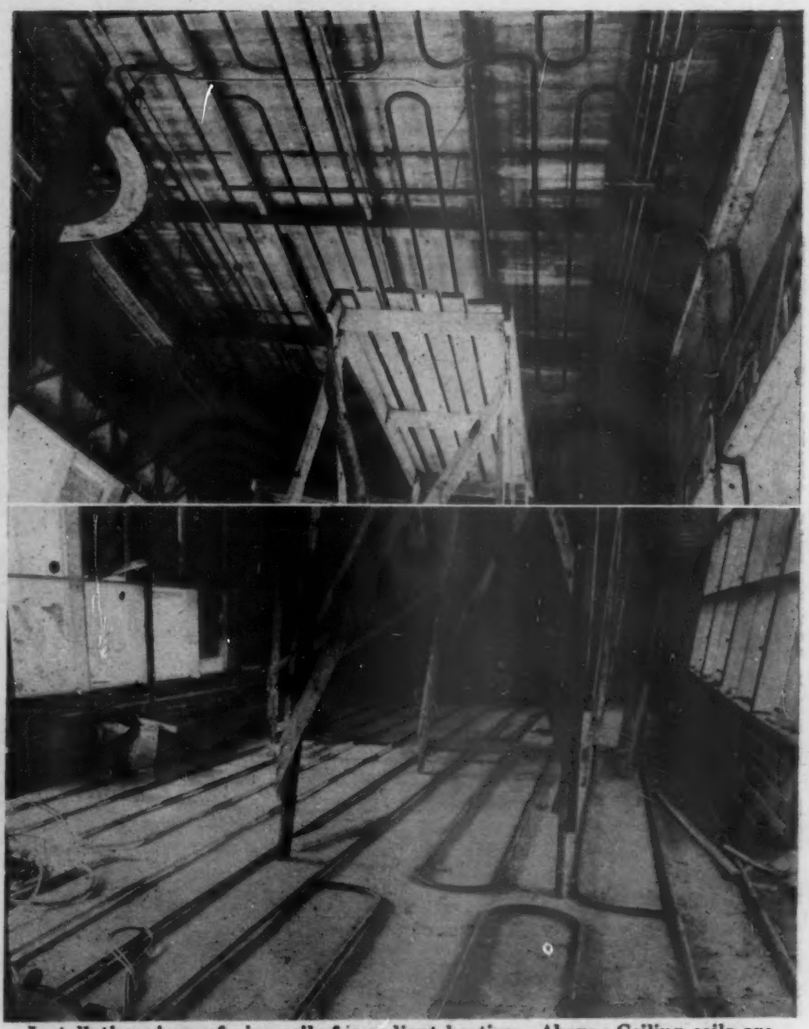
Miscellaneous Facilities

In the toilet rooms and the ladies' lounge the floors are of ceramic tile and the walls are of structural glass. The plumbing fixtures and other appointments are equally modern, a special feature being the installation of ultra-violet ray lamps in each room to promote sanitary conditions. The freight, baggage and express room at baggage and express room, 35 ft. by 20 ft., at the other. The ceiling is 17 ft. above the floor and is composed of perforated metal backed with a 1-in. layer of sound-absorbing material.

Interior and Appointments

The waiting room, with its high, sound-absorbing ceiling, gives the effect of quiet spaciousness, and is bright and cheerful. The floor surface is of terrazzo laid out in sections, with the C. & O. emblem "Chessie" inlaid in the center of the room. The side walls incorporate large areas of plate glass panel-type windows which, because of the station's location in the verdant Appalachian foothills, serve as picture windows as well as insure an abundance of daylighting. The principal wall areas framing the windows are faced with Colorado travertine, and a large photo-mural, depicting a scene typical of the coal-mining industry, and illuminated by specially arranged recessed lighting, decorates one end wall.

The easterly end of the waiting room is the business end, while the center and westerly end are for the comfort and convenience of the public. The agent's office, located in one corner of the easterly end near a door to the platform, is enclosed by plywood and triplex glass, and has a ticket counter of marble and soapstone and an asphalt tile floor. A curved corner of the enclosure and counter, together with a ticket sign in bold outline letters, add to the decorative effect. Two window panels on the track side of the office make it possible for the agent to view the tracks in both directions, and a



Installation views of pipe coils for radiant heating. Above—Ceiling coils are suspended between roof and ceiling. Below—Floor coils are embedded in sand over concrete base and covered with concrete topped by terrazzo flooring

the opposite end of the station has a concrete floor and glazed tile walls, and is adequately equipped, including a storage room for mail and valuables.

Fluorescent lighting is used throughout the station, employing streamlined flush-type fixtures in the ceilings and the underside of the canopy roof over the platform.

Solar Orientation

Solar orientation was considered in the building design to take advantage of the warming rays of the sun in the winter, and yet shade the interior in hot weather. The platform canopy on the south side of the station shades the lower part of the large panel-type window area on that side. However, since the canopy roof is not as high as the building roof, it does not shade the top row of window panels. This row is afforded shade in the summer by the overhang of the projecting roof of the station, the amount of overhang having been computed with reference to the meridional position of the sun to shield this window area from the high summer sun, but to expose it to the lower sun rays in winter.

Radiant Heating

Claimed to be the first railroad station to be heated by radiant heating, the Prince depot utilizes this method of heating to eliminate the possibility of cold, damp floors, and to insure maximum comfort for occupants. In the system installed, hot water, from a boiler fired by a screw-type, bin-feed coal stoker in the utility room, is circulated through pipe coils located within the floor, and also between the ceiling and roof. With this type heating, which involves no exposed heating elements, it is anticipated that cleanliness will be improved, and that a higher standard of comfort will be achieved at lower air temperatures than found in conventionally-heated structures. In addition, the absence of floor-type heating units permits the full use of all floor space.

The heating system is laid out in two zones, one serving the upper and lower levels of the waiting room and the toilet rooms, and the other the freight, baggage and express room. Two independent thermostats, one in the waiting room and the other in the baggage room, control the different zones, permitting different temperatures to be maintained in the two areas in the interest of economy, since the baggage room does not require the same comfort conditions as the waiting room. Heating coils were placed only above the ceiling in the baggage room so as not to introduce any unnatural floor temperatures which might affect baggage, mail and express stored there.

Ceiling coils throughout are 1¼ in. Byers wrought iron pipe, on 12-in. centers, suspended from metal hangers above the ceiling. Floor coils, made from 1-in. Byers wrought iron pipe on 18-in. centers, are embedded in 1¼ in. of sand on a 4-in. reinforced concrete floor slab, and the sand and pipe are covered with concrete topped by the terrazzo flooring. Hot water from the boiler is forced through the pipe coils by circulating pumps, which are controlled by the thermostats, and the pipes are equipped with air vents to prevent air-locks.

Provision for Ventilation

The air in the public rooms of the station is kept pure by several devices. Because radiant heat passes through the air without agitating it, drafts caused by convection currents are minimized, while dust particles in the air settle instead of swirling around the room.

Air circulation in the waiting room, therefore, is dependent primarily upon the opening and closing of the exterior doors in normal station operations, but it can be supplemented, as desired, by the use of manually-controlled ventilating sashes built into the high and the low panels of the windows. Fan-driven air ventilators are installed in the toilet rooms to assure satisfactory air circulation in these areas.

The new station was built from designs prepared by C. & O. architects in collaboration with Messrs. Garfield, Harris, Robinson & Schafer, architects, of Cleveland, Ohio. The actual planning and direct supervision of the work were carried out by Alexander C. Robinson, III, consulting architect, and E. C. Hoyer, Jr., engineer of buildings of the C. & O. John P. Pettyjohn & Co., contractors, Lynchburg, Va., handled the construction. The radiant heating system was designed by John Paul Jones, of Cary & Millar, consulting engineers, Cleveland, and was installed by T. Johnson, heating contractors, Huntington, W. Va.

* * *

More light-weight all-steel trains are being installed by the electric Lotschberg Railway in Switzerland

Elimination of Locomotive Smoke

Conference on smoke abatement and conservation of fuels gave much consideration to this troublesome problem

THE proceedings of the thirty-ninth annual meeting of the Smoke Prevention Association of America, which was held in Minneapolis, Minn., June 23-26, were reported briefly in the *Railway Age* of July 6, page 22. The following article includes abstracts of several of the addresses which were concerned with the abatement of smoke from coal-burning locomotives.

Roy V. Wright, managing editor, *Railway Age*, in speaking on railroad smoke abatement, said in part:

The railroads have frequently been singled out for castigation because of locomotive smoke in urban areas, although in spite of popular belief, they have not been the principal offenders by any means. The report of the Chicago Association of Commerce Committee of Investigation on Smoke Abatement and Electrification of Railroad Terminals, made under the direction of the late Dr. W. F. M. Goss in 1915, showed, for instance, that the visible smoke from locomotives at that time accounted for 22.06 per cent of the total smoke in Chicago. Because of railroad electrification and the cooperation of railroad managements with civic interests, a considerable improvement has been made since that time. A paper presented before this association in 1941 by I. A. Deutch and S. Radner indicated that in 1939 locomotives accounted for 10.15 per cent of the smoke responsibility in Chicago.

Public Resentment

I need not remind the members of your association, which has been functioning effectively over four decades, of the deleterious effects of smoke upon health, vegetation and loss and damage to property. We must frankly face certain facts. There was a real reason for bringing this organization into being in 1906—the growing resentment of the people in many of our cities to the smoke and soot nuisance. While it is true that substantial progress has been made in many of our communities, it is equally true that the American public has at the same time steadily grown more and more critical and fastidious in its tastes. The public today will not stand for dirt and untidiness and slum conditions; we must recognize that in general it now has a much higher appreciation for cleanliness and attractive, and even artistic surroundings. The advancement in this respect during the past quarter of a century has been astounding, and this despite the prolonged depression of the 'thirties and the limitations imposed by a second World War.

The railroads—public utilities as they are—having had more experience in the field of public relations than many other businesses, have not been asleep. They have been growing more and more sensitive to public reactions, as is indicated by the introduction of streamline trains, the improvement and better upkeep of their facilities and equipment, the modernization of stations and in various other ways. This has extended to the baffling problem of attempting to eliminate smoke from locomotives, enginehouses and power plants under their control; indeed, the railroads, generally, are to be warmly commended for the cooperation they have given city officials, notwithstanding the fact that they are not the worst offenders in this respect. Railroad managements have also realized that smoke and soot are evidences of poor combustion and wastefulness—a matter of growing concern as the cost of fuel has increased.

Railroads Cooperate

It has been my good fortune to have followed somewhat closely the results achieved in Hudson county, N. J., where the Stevens Institute of Technology has cooperated with the county in building up a strong and effective smoke prevention program. When this movement was first started in 1931 the executive officers of the railroads which operate in that county were approached and little difficulty was found in securing their cooperation. A Railroad Smoke Association was organized. Responsible representatives of the various railroads have met regularly at monthly intervals over the years, to discuss and decide upon measures to improve the smoke prevention practices. A certain amount of competition was induced by monthly reports showing the relative performance of the different railroads. Today smoke from coal burning locomotives has been very greatly reduced within the county limits; indeed, the reports show that on some railroads it has been very nearly eliminated.

This organization, conducted on a voluntary basis and financed from dues of members, had the full cooperation of the county Department of Smoke Regulation, which, incidentally, is a part of the Department of Health and Vital Statistics. A Marine Smoke Association was also formed, operating along similar lines. It included representatives of the marine departments of the railroads, steamship companies, and towboat companies. This movement, too, proved a success and was followed by the organization of another similar association, including representatives from industrial power plants.

Meanwhile the Department of Smoke Regulation developed rules for the installation of heating equipment in residences and other buildings, and saw to it that, so far as possible, these regulations were conformed to.

Educational Programs

Hudson county can well be proud of the results, and the great city of New York, lying to the east, has profited from the venture in a reduced precipitation of solids over that city. The difficulty, or limitation, is that a movement of this sort is confined to a limited area, although, as you well know, constructive smoke prevention programs have been set up in many of our larger cities.

Much can be accomplished in reducing railroad smoke by such educational programs. The railroad supervisory staff must be ever on the alert in training and coaching the employees, and even in dramatizing the problem. New visual educational methods are being perfected which can be used to advantage. It is a serious mistake to assume that the men on the locomotive are the only offenders. The locomotive designer, the men who maintain and repair the locomotive, and those who provide the fuel, as well as others related to locomotive and train operation, are all involved to a greater or less extent. This has been continually evidenced in the discussions of the Hudson County Railroad Smoke Association and in your association also. Then, too, the human element is prone to relax, unless constantly driven or spurred to action; moreover, new employees who must be patiently and thoroughly trained are continually entering the service. The problem, therefore, would seem to be one of

making the prevention of smoke (perfect combustion) as nearly automatic as possible.

A Technological Problem

This brings into the picture the engineer and the designer—the more strictly technological phase. Remarkable progress has been made in transforming the simple and comparatively small locomotives of the late 'nineties into our modern, powerful giants, with refinements in design, elaborate auxiliaries and tolerances hardly conceivable in the earlier days. Special materials and added and cleverly designed specialties, all assembled with attention to artistic lines, have converted the locomotive into a truly magnificent mobile powerhouse and machine. More and more have the researchers and designers centered their efforts on making it as nearly as possible a perfect machine, capable of pulling heavy tonnages safely and reliably, and with maximum efficiency and economy. Only by so doing could the railroads survive the onslaughts of their competitors.

And technology has not overlooked the elimination of smoke. The researchers have been making rapid progress in this direction in recent years, as they always do when necessity focuses attention on a problem. We will always have to concentrate on the training of the supervisory staff and employees in the proper selection, handling and use of fuel and the prevention of smoke. Because, however, the human element has been unable to perform the job as effectively as the public interest demands, science is stepping in to complete the task. As the result of this more intensive research, some of our railroads today are making a really remarkable showing in smoke prevention.

I will not dilate on this. Suffice to say here that we are on the threshold of radical improvements in the design and operation of coal-burning locomotives, as pointed out in Mr. Johnson's address. This, in itself, is a fascinating development which, incidentally, may have an important influence on smoke prevention.

One phase of research, however—the use of the overfire steam-air jets—has dealt more specifically and quite effectively with locomotive smoke prevention and will be discussed by Mr. Canetta. [An abstract of his paper appears in this article.] The Battelle Memorial Institute is to be warmly commended for the constructive and successful engineering research activities in that field which it has conducted during the past three years in conjunction with Bituminous Coal Research, Inc.

Let me sum up. The value and importance of the human element in smoke prevention—its training, coaching and control—cannot be gainsaid. On the other hand, to be fully effective, it must be supplemented by technological improvements if the problem of locomotive smoke prevention is to be licked—and in the public interest and the conservation of fuel, it must be licked.

Automatic Controls for Overfire Air Jets

John Canetta, Westinghouse Air Brake Co., described a device being developed by his company which was first applied to a Louisville & Nashville locomotive. A more recent application to a Chicago, Milwaukee, St. Paul & Pacific locomotive was demonstrated at Minneapolis during the convention. An abstract of his address follows:

Introduction of supplementary air into a furnace will help to prevent smoke and improve combustion efficiency. In the case of steam locomotives, overfire air jets located on each side of the firebox are used for this purpose and are recognized as the most practical means of smoke abatement. Hundreds of engines have been equipped with these jets; many others are in the process of having them installed. We have passed the stage when the stack blower and the partial opening of the firebox doors was considered as a satisfactory substitution for overfire air jets.

At present practically all installations of overfire air jets are manually controlled. This is satisfactory in the hands of an experienced, willing fireman, a fireman who has the time to turn the jets on and off when necessary. The equipment used is of utmost simplicity and mechanically dependable because it consists only of a globe valve in the steam line leading to the nozzles of the air jets. Some firemen may have plenty of time on their hands but not the average fireman; he has many duties, and experience has shown that, if smoke abatement is to be complete with manual control, the most positive procedure is to leave the jets on all the time. This course has the advantage of eliminating smoke but it has three disadvantages: It is expensive in the use of steam, it may be undesirable from an operating point of view, and it can be dangerous.

As to the economic side of the question consider a typical case of a small switcher working 10 hours of a 20-hour day and consuming about 10 tons of coal during the period. Continuous operation of the jets consumes 10 per cent of all the coal used, while with automatic control about 1 per cent would be used for that purpose.

The second disadvantage of continuous operation of the jets, and probably the most serious criticism from an operating point of view, is the local chilling and the clinkering of the fire which may occur in the absence of a positive draft. In general, the practice will unquestionably call for increased firing and will add to the work of the engine crew.

The question of safety is also important. With manual control nothing prevents the fireman from opening the firebox doors when the jets are operating. This is dangerous because flames may surge from the firebox even in the presence of an effective draft. Automatic controls remove this hazard because they are so interlocked with the door engines that it is impossible for the jets to be on when the doors are opened by the foot pedal of the door engine, intentionally or otherwise.

These are the reasons why we consider automatic controls desirable, but even so, these reasons in themselves are not sufficient; the controls must be dependable and rugged; they must not cause inconvenience to the engine crew; they must do a real job before being acceptable.

Hand-Fired Controls

The accompanying diagram shows the arrangement of valves that form part of the automatic controls for hand-fired locomotives. These valves are a combination of a pneumatic and a steam system. The principle of operation is as follows:

When the firebox doors are open, the stack blower is automatically turned on and a reservoir is charged with compressed air. As soon as the doors are closed, steam flows to the overfire air jets while the stack blower continues to operate. The length of time that the jets are on depends upon the blowdown time of the reservoir, which in practice may vary from 30 seconds to three or four minutes. It is clear, therefore, that the jets are primed, so to speak, by opening the doors but they are only allowed to operate after the doors have been closed and then only for a limited time. In this way we make sure that the jets go to work immediately after firing and for a time interval which is roughly proportional to the duration of the opening of the doors—in other words, the more coal put in, the longer the jets will last.

We shall now examine the diagram in more detail. On the right we have what is called a relay air valve *A*, which is piloted by the compressed air that works the door cylinder. When the door pedal is depressed, the relay air valve allows main-reservoir air to flow in three directions: First, to an air trip-off valve *B*, which promptly closes the steam line leading to the overfire jets; second, to an air trip-on valve *C*, which opens the steam line leading to the stack blower; and in the third place, air flows through a charging choke *D* to the timing reser-

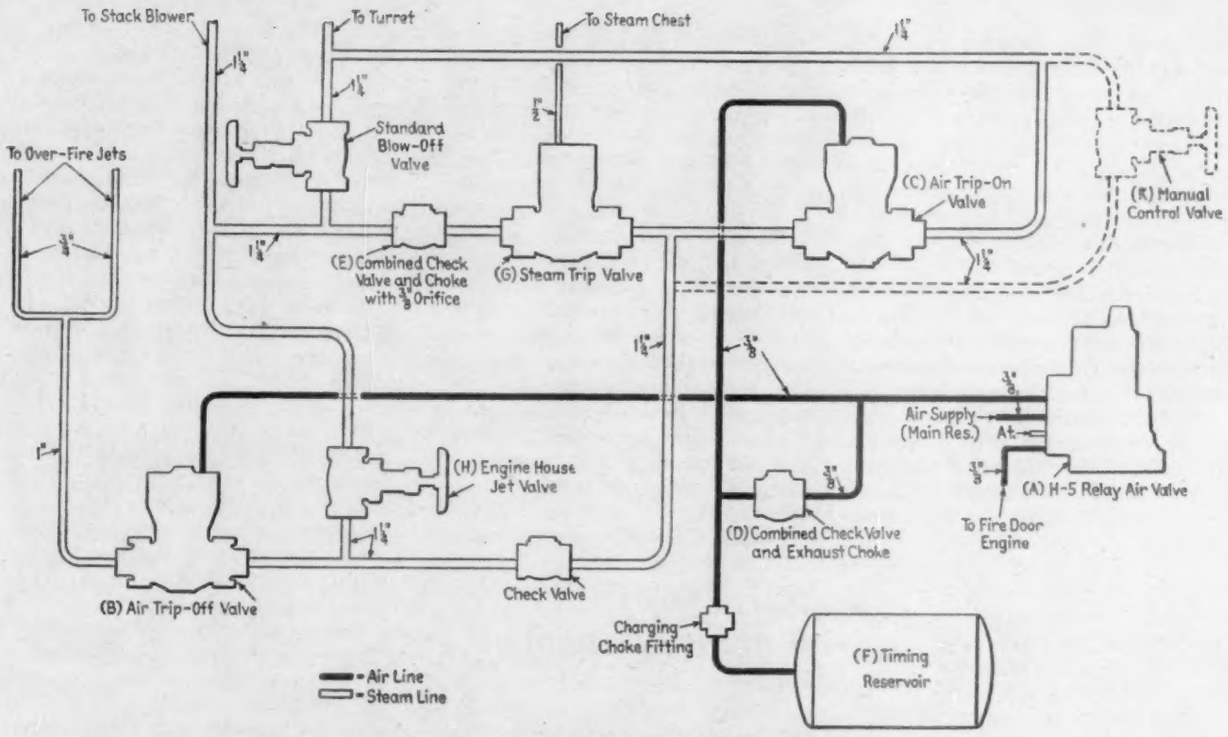


Diagram illustrating automatic smoke control for hand-fired locomotives

voir *F*, which will continue to charge for the duration of door opening, or until main-reservoir pressure has been reached. Note that steam is now flowing to the stack blower through a 3/8-in. orifice in the combined check valve and choke *E*, but the jets are still held off. The first half of the operation is completed.

As soon as the doors are closed, the relay air valve *A* returns to normal position and permits air to exhaust rapidly from the top of the trip-off valve *B*, that had cut off steam from the jets. The steam portion of this trip-off valve can now open and let the jets start to operate. Air from the timing reservoir *F* also exhausts by way of the relay valve *A*, but at a slow rate because it is forced to flow through a small orifice in the combined check valve and exhaust choke *D*. It follows that the pressure on the second air trip valve *C* will hold the valve open for a certain length of time and permit steam to flow both to the stack blower and to the overfire air jets. When the pressure of the air in the timing reservoir has dropped to about 5 lb. per sq. in., this last-mentioned trip valve closes and all flow of steam stops.

There is a third trip valve *G* located in the steam line leading to the blower. This valve instead of being air-operated is steam-operated and the steam pressure which controls it is that of the steam chest. This valve cuts out automatic operation of the stack blower whenever the steam chest pressure produces a draft about equal to that of the blower; that is to say, when it reaches a pressure of approximately 50 lb. per sq. in. This is a useful expedient; it saves steam and still retains full protection against flames and gases coming out from between the doors while the jets are on.

When the locomotive is in the roundhouse and the stack blower is connected to the house steam supply, the jets can be turned on manually *H* as long as the doors are closed and the two-ball check valves prevent back flow of steam to the turret.

As an optional feature, we have added an extra globe valve *K* to permit manual operation of both stack and overfire air jets when desired, with the limitation that air jets can only be on when the doors are closed, and with a second limitation that the stack blower can only be turned on when the steam chest pressure is below 50 lb. per sq. in.

The trip valves are nothing more or less than the steam portion of the standard compressor governor, or this portion with slight modifications.

[A similar automatic control designed for stoker-fired locomotives was described by Mr. Canetta. It is somewhat more elaborate and will shortly be applied.—EDITOR.]

The aim of these controls is to aid the operators in overcoming smoke and to do this safely, economically, without interfering with the normal operation of the locomotive and without imposing any additional hardship on the engine crew. We believe that these aims have been achieved; however, complete elimination of smoke will always require something else; that is to say, the intelligent cooperation of enginemen, firemen and hostlers.

Motive Power Trends

Ralph P. Johnson, chief engineer of the Baldwin Locomotive Works, presented a comprehensive paper on Railroad Motive Power Trends, much of the subject matter being taken from a paper on the same subject which he read at the annual meeting of the American Society of Mechanical Engineers last November. An abstract of his paper appeared in the *Railway Age* of January 5, 1946, page 29.

"Speaking for locomotive designers," he said, "I would like to assure you of one thing. Smoke is unburned carbon and so is a distinct loss in getting kinetic energy out of fuel. Its elimination is therefore one of our major aims." In closing his paper he said, "As far as smoke elimination goes, electric, Diesel and gas-turbine types of locomotives offer no problem, and the steam locomotive is improving rapidly in this respect."

Air Supply to Coal-Fired Fireboxes

Ralph A. Sherman, supervisor, Fuels Division, Battelle Memorial Institute, presented a paper on The Supply of Air to Coal-Fired Steam Locomotives. It was illustrated by an extensive series of

charts and is part of the program of research for the Bituminous Coal Research, Inc. This study included mthods for evaluation of exhaust arrangements, the factors affecting the performance of front ends, relation of front-end performance to air-fuel ratio, relation of performance of front-end to loss of heat in cinders, effect of back pressure on power output, efficiency of front end, and possibilities of improvement in design and performance of locomotive air supply systems. Mr. Sherman's presentation closed with the following conclusions and recommendations for a program of research:

This analysis of the problem of the supply of air to coal-fired locomotives by means of the "front-end" system of exhausting the steam from the cylinders into the stack through a fixed nozzle shows:

(1) That the design of the front end definitely establishes at all rates the efficiency of combustion of the coal, as measured by the excess of air, and the efficiency of the cylinders except for some modification possible by the engineer by position of the throttle and cut-off.

(2) That the front end does not increase the rate of supply of air proportionately to the rate of output of the locomotive, but leads to a decreasing excess or even a deficiency of air at high rates.

(3) That the loss of heat in cinders carried out of the combustion chamber at high rates is not necessarily the result of the deficiency of air supply by the front end.

(4) That the high back pressures on the cylinders at high rates lead to large losses of power output.

(5) That one of the principal reasons why high back pressures are required is the high resistance offered to gas flow by the diaphragm and the tubes.

(6) That most attempts at manually or automatically controlled front ends have been based on the assumption that locomotives are overdrafted at high rates of output and underdrafted at low rates, whereas the reverse is true.

A program of research to improve the performance of the coal-fired steam locomotive by improvement of the air-supply system should include:

(1) A program of tests on a full-scale locomotive to fix definitely the value of the factors, ratio of area of stack to nozzle, steam pressure, temperature of the gas, and resistance to gas flow that determine the entrainment ratio of a nozzle. This information can be obtained on standing tests using throttled, desuperheated steam. Of particular importance is that the weight of gases moved be accurately measured. This is preferably obtained by movement of the gases with a fan and measurement by means of a nozzle or a pitot tube. With this information and with knowledge of the resistance to gas flow and of the consumption of steam of a given locomotive, the proper size of nozzle for a given performance could be established by calculation, and cut-and-try methods of adjustment of the front end would be eliminated.

(2) Review of design of front ends and experimental research to develop a design with the minimum resistance to the flow of gas consistent with proper self-cleaning characteristics.

(3) Review of the problem of heat transfer in the boiler tubes to fix the area and length to make the over-all efficiency of the locomotive an optimum.

(4) Conduct a thorough program of experimental research to determine the value of overfire air in elimination of smoke, reduction of losses in gaseous combustible, and of losses in cinders.

Surveys of Smoke Abatement

H. B. Lammers, director of engineering, Coal Producers Committee for Smoke Abatement, Cincinnati, Ohio, spoke on The Effect of Smoke Abatement Surveys Conducted in Various Cities. The organization which he represents is composed of several large coal-producing districts and five railroads which serve them. In the introduction to his extensive paper he made the following significant statements:

In approaching city officials who are sincerely interested in abating smoke—and the committee studiously attempts to avoid those cities where the politicians are merely using smoke abatement as a means to some other end—we tell them frankly that the Coal Producers Committee for Smoke Abatement is interested in the subject from a mercenary standpoint—namely, that we wish to retain our established markets; yet we realize that to do so, every assistance must be given cities to solve the problem of smoke and atmospheric pollution.

There is no easy road to smoke abatement; there is no formula or magic wand that will miraculously overcome this problem at one stroke. It is hard work—hard work in the face of indifference or apathy on the part of the general public—and demands engineering knowledge and experience, if we are ever to solve the problem.

When we discuss these matters with city officials we tell them that, without reservation. We explain how, over a period of years, for one reason or another, certain coals have found markets in their particular cities. We tell them that, in the main, their smoke problem can be solved without disturbing these markets and irritating the populace.

We have refused to operate in one large city despite the fact that the city officials have practically begged us to make a survey. We did this because the officials refused to give us assurance that, after our recommendations were presented, a smoke ordinance would be enacted. These officials said they believed they could use our survey to cajole owners of various business and industrial establishments to follow our recommendations.

We all know that we will never achieve smoke abatement merely by making surveys and presenting recommendations. A workable ordinance, with teeth in it, is the final answer. Furthermore, there must be enforcement by a staff adequate to handle the problem.

The coal and railroad industries fully realize that in some instances, certain consumers of coal will turn to other fuels merely out of resentment because the Coal Producers Committee has sponsored an ordinance that will make them toe the line. This problem is, however, too big to worry about a few dissenters. Smoke must be abated and it remains for those most vitally interested and concerned to abate it.

* * *

Photo courtesy R. H. Kindig

The Santa Fe's "El Capitan" climbing the 3.5 per cent Raton pass grade with a steam helper

And Now—Robot Tie Handlers!

Completely integrated system provides mechanical transfer for crossties from receiving track, through the seasoning yard, the adzing and boring mill to the treating cylinder

GONE are the sweating, back-cramping days of manual crosstie handling at the Atlanta, Ga., plant of the Southern Wood Preserving Company. An ingenious mechanical system, designed, developed, built and assembled during the last two years, has greatly reduced physical effort in one of the most laborious and critical tasks in the production and treatment of crossties. Placed in general use last October, the new system had unloaded, stacked and transferred to seasoning yards more than 150,000 green ties and in addition up to April 15 had transferred approximately 125,000 air seasoned crossties from the seasoning yard to the adzing and boring mill.

Marking one of the great strides in the mechanization of the railway crosstie industry in many years, the development of this system ushers in a new era in which mechanical handling devices and assembly line methods probably will go far toward the more efficient production, seasoning and treatment of cross and switch ties. Stimulated principally by embarrassing shortages of crosstie handlers during the war, as well as sharply increased handling costs, Southern Wood's new system holds the promise of more efficient handling methods for a task that, during the past 20 years, had developed into one of the knottiest problems within the industry, principally because of the sharply increased size and weight of railway crossties.

Briefly, the new mechanical system comprises five principal units: (1) an unloading machine, described in *Railway Age* of June 9, 1945; (2) a central stacking machine; (3) transfer tram cars; (4) a Ross crosstie carrier; and (5) an unloading device at the adzing and boring mill.

Box Car Unloader

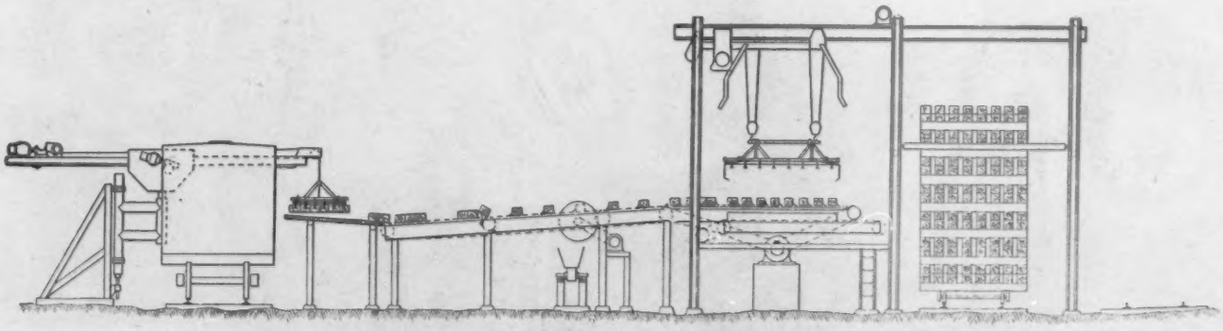
Even before the executive committee of the American Wood-Preservers' Association in 1945 appointed a special committee to investigate the handling of crossties from the woods through treating plants to their destination, the Southern Wood Preserving Company had designed and built a mechanical device for unloading crossties from box cars. As the primary unit in the new mechanical tie handling system, the unloader comprises an electrically operated hoist which is mounted on a horizontal steel boom that in turn is pivotally supported by a steel frame anchored to a concrete foundation on one side of an unloading track.

The boom is revolved manually on roller bearings and a suitable vertical adjustment compensates for varying heights of cars and their loads. The boom is long enough to reach to either end of box cars and can be moved backward and forward on roller bearings by means of an electric motor drive. A second electric motor, mounted on the outer end of the boom, operates a hoisting drum, and a steel cable which runs over a sheave at the opposite end of the boom is connected to a grappling device comprising a series of hooks designed to pick up five or six ties at a time and to release them automatically as they are deposited on the carrier portion of the stationary central stacking machine located on the opposite side of the track from the unloader.

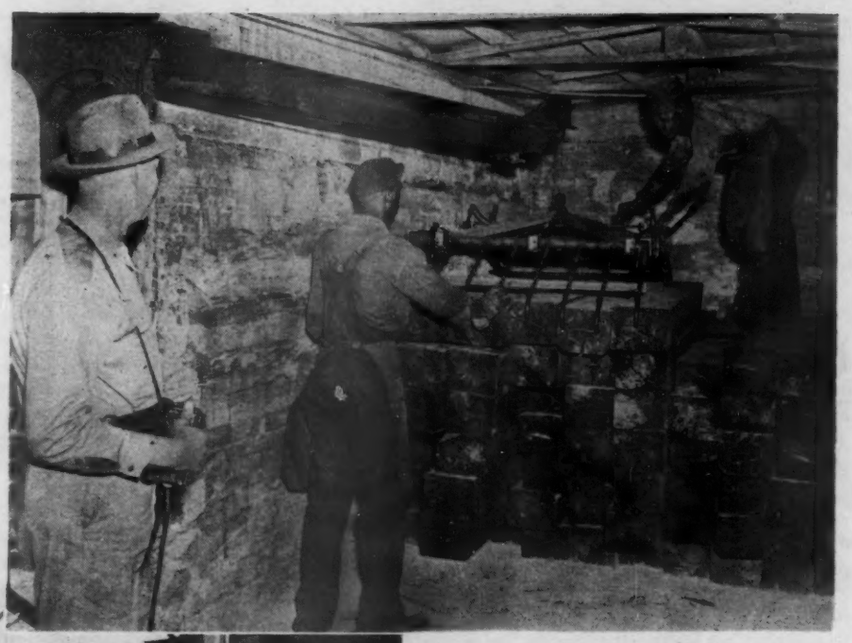
In unloading, a box car is spotted with its door opposite the unloading machine, the boom is swung into the doorway and anchor chains are fastened to hold the unloader firmly in position. An operator is stationed near the car door with an electric control box attached to a belt worn around his waist. After the grapple hooks have been applied to the ends of the ties, the operator starts the hoisting motor which raises the load, then the boom is retracted so that the load may be swung through an arc inside the car and into position for discharging, through the opposite door, laterally to the receiving platform of the stacking machine. The boom is then retracted, swung into hoisting position and the cycle is repeated.

Central Stacking Machine

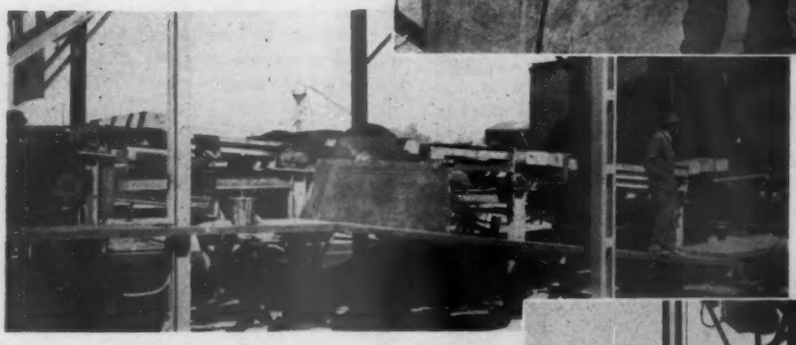
The receiving end of the central stationary stacking machine consists essentially of a sloping receiving platform equipped with gravity rollers, from which the ties progress laterally to a motor-driven chain conveyor equipped with appropriate guides and a motor-driven circular saw for trimming long ties automatically to standard length. The ties pass on to a second chain conveyor that delivers them to a separating or spacing table where they are spaced mechanically and arranged in standard eight-over-one formation. It



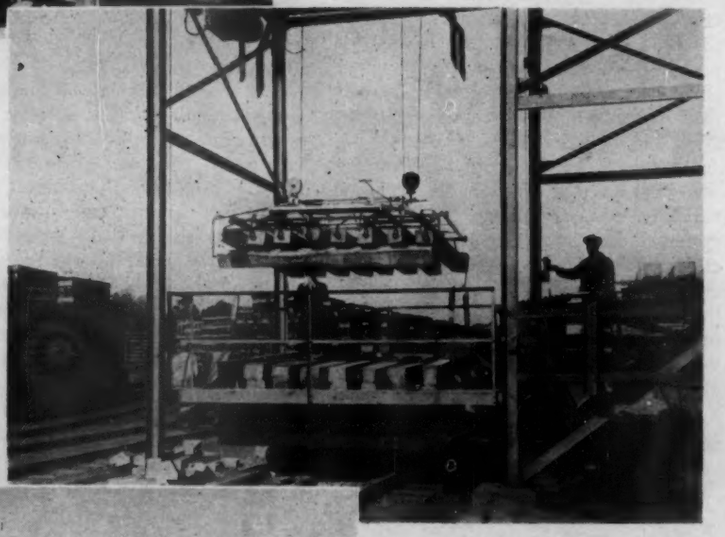
General diagram of the central box car unloader and tie stacking equipment designed, developed and erected at the Atlanta plant of the Southern Wood Preserving Company



Right—Boom of box-car unloader extended to the end of the car and the grapple being applied to ties. The operator (foreground) controls all movements with control box suspended from a belt around his waist

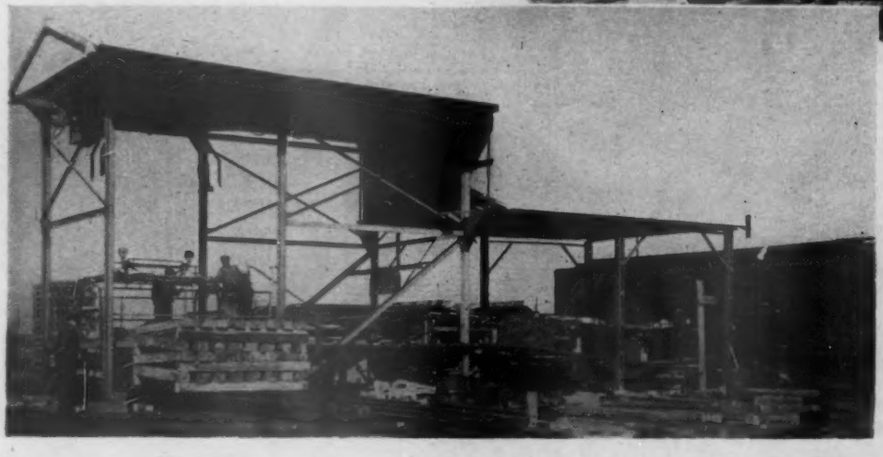


Left—The box car unloader delivers crossties to the incline roller conveyor (at the right) which comprises the receiving platform and in turn feeds the motor-driven chain conveyor of the central stacking machine. The trimming saw is in the center



Right—Lowering a complete layer of regularly spaced crossties together with its stringer tie in place. Man at right controls the hoist and the elevator type platform encloses the rick area

Below—General view of the central unloading and stacking machines in action. The low, sturdy, all-steel trams in the foreground were specially designed for purpose of carrying standard ricks



is at this point that an ingenious arrangement in the conveyor system provides the proper automatic placing of stringer ties.

After a layer of eight ties, together with their corresponding stringer tie in proper position, have been assembled on the spacing table, they are picked up by a grapple attached to a mono-rail type hoist and transferred to the stacking section of the equipment where the ties are deposited on a specially designed steel tram. The mono-rail hoist is suspended from steel framework comprising H-beam posts with appropriate angle-braces. A movable steel service platform suspended by cables and with guides engaging four corner posts, frames the rick area and may be lowered and raised as successive layers of ties are added to the rick.

Handling "Top-Heavy" Loads

After a standard rick (approximately 14 ft. high) has been completed, the suspended platform is hoisted clear and the loaded tram is replaced by an empty as the stacking process is repeated. It is a common sight in the Atlanta plant yard to see a dinky locomotive switching what at first glance appears to be a top-heavy train load consisting of six or more standard ricks of crossties each riding securely on its respective tram car. Repeated tests and eight months experience have proved the practicability of switching trains of standard ricks each comprising 127 crossties.

After the ricks have been switched to the drying section of the yard, they are picked up bodily by a specially designed Ross crosstie carrier, which essentially is a larger edition of the Ross straddle truck commonly used in handling and transferring lumber. As in its smaller counterpart, the Ross crosstie carrier consists of a sturdy steel frame wide enough to straddle and hoist a rick of crossties. Its engine and operator's cab are mounted on the top and a chain drive actuates the two rear wheels of the four wheel unit. By means of a series of small portable aluminum bridges the crosstie carrier can readily straddle a railway track and a rick of crossties on a transfer tram, pick up the rick as a unit, back off the railway track and transfer the rick to its final position in the seasoning yard.

Seasoned ties are loaded on transfer tram cars by reversing the operation of the Ross tie carrier and trainloads of ricks are transferred to the adzing and boring mill where another grapple and mono-rail hoist, similar to those employed at the central unloading station, are used to transfer the ties from the ricks to a conveyor system leading to the adzing and boring machine.

Record Proves Practicability

During the month of March, Southern Wood's mechanical tie handling system unloaded and stacked 45,905 green crossties, all of which were 8 ft.-6 in. long, approximately 65 per cent of which were size 5 ties and fully two-thirds of which were oak. These ties were handled during an operating period of 228 hr., which means that an average of 201 ties were handled per hour. Seven laborers were used in this operation and the rate of handling averaged 28.8 ties per man-hour. The timing includes switching or changing cars and ricks at the unloader and all lost motion such as failure to start promptly with the whistle in the morning and all other types of delays.

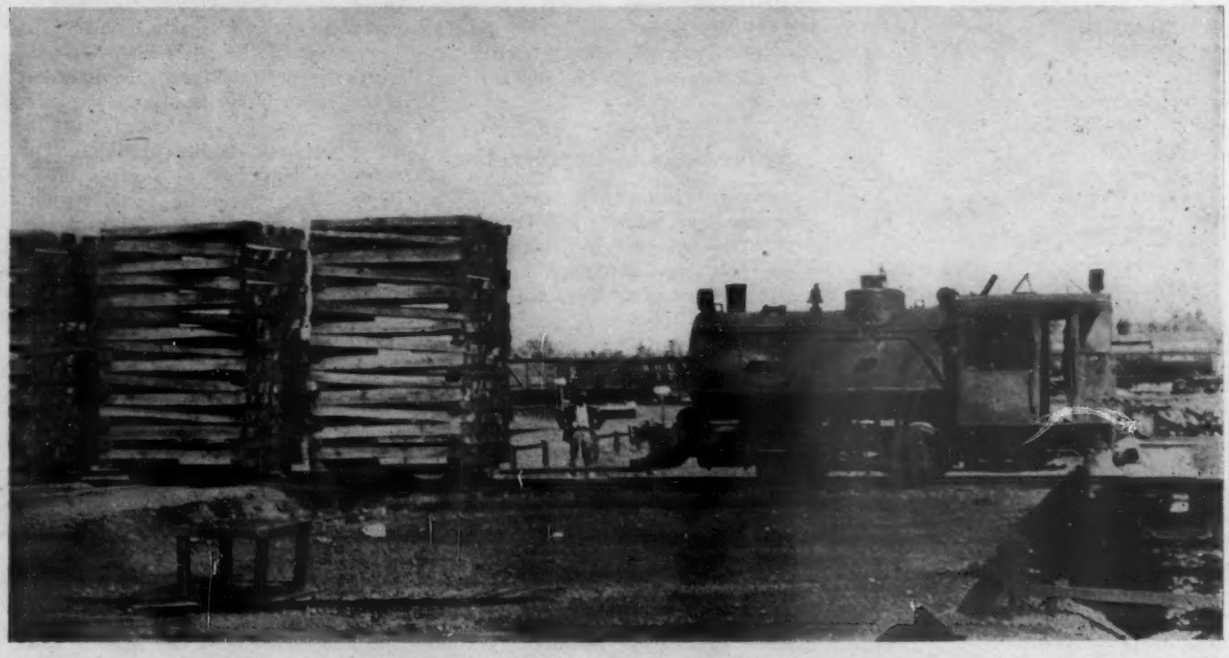
In addition to the green ties, the Ross crosstie carrier also transferred 21,470 seasoned crossties from the yard to tram cars during a total elapsed operating time of 197 hr. Hence, during the month of March the carrier handled 67,375 crossties. These operations required an average of two laborers on the ground in addition to the carrier operator so that an average of 114 crossties per man-hour were handled during that period.

Because of considerable rain, the yard was wet and the ground was soft with the result that it was necessary for the carrier crew to lay treads so that the truck could operate in and out of the tie lanes.

The time required for handling unseasoned or green crossties from the cars to the seasoning yards during the month of March was as follows:

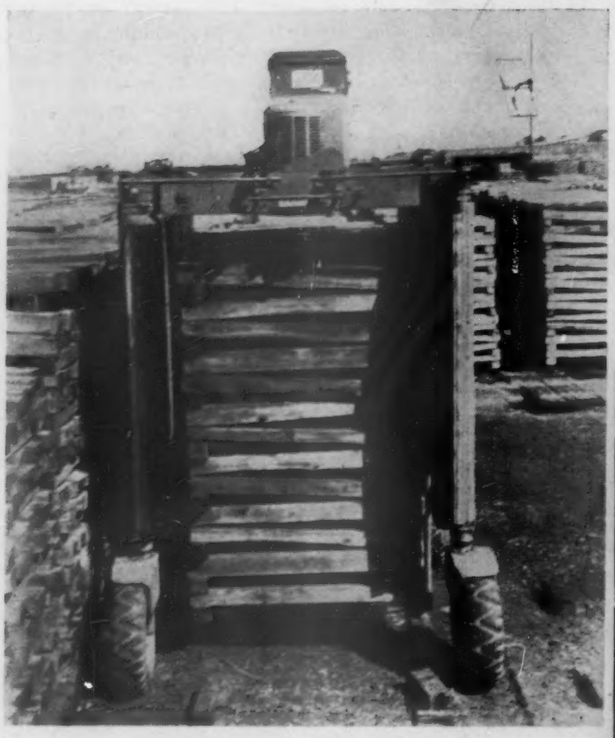
From box cars to ricks
28.8 ties
per man-hr. = 3.47 man-hr. per 100 ties.
From ricks to seasoning yard
114.0 ties
per man-hr. = 0.88 man-hr. per 100 ties.

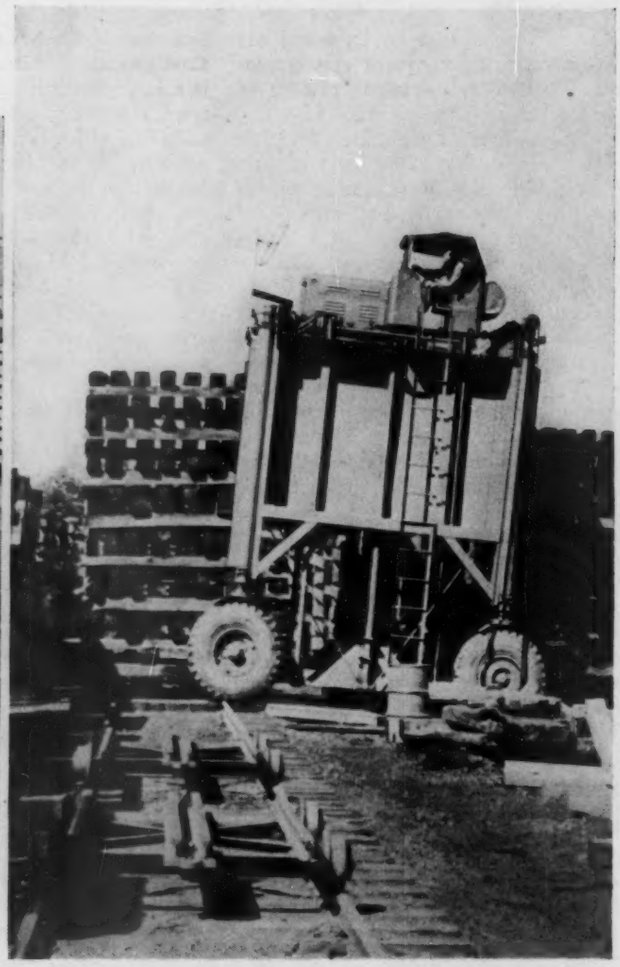
Total handling time ..... = 4.35 man-hr. per 100 ties.



Plant locomotive switching a train of standard ricks of crossties 14 ft. high and each comprising approximately 127 ties

Below—Ross carrier truck with a load of 127 crossties in standard rick formation





Right—Ross carrier truck backing away after loading a tram car with a rick of seasoned crossties

From the foregoing data it is apparent that green crossties were unloaded from box cars, stacked and placed on the seasoning yard at the rate of 23 ties per man-hour.

In handling 21,470 seasoned crossties from the yard to the adzing and boring mill during the month of March the time required was as follows:

to tram cars .
From seasoning yard
114 ties
per man-hr. = 0.88 man-hr. per 100 ties.
From tram cars
to adzing and
boring mill
250 ties
per man-hr. = 0.40 man-hr. per 100 ties.

Total handling
time ..... = 1.28 man-hr. per 100 ties.

It is evident, therefore, that seasoned crossties were transferred from the seasoning yard to the adzing and boring mill at the rate of 78.1 ties per man-hour. Under the new system, one additional man is required at the adzing and boring mill to operate the monorail hoist that carries the ties from the ricks to the conveyor.

The cost of electricity used during the month of March for these unloading, stacking and transfer operations amounted to $1.00 per 2,000 crossties or $0.0005 per crosstie; cost of gasoline and oil during the same period for the Ross carrier truck amounted to $1.00 per 3,334 crossties or $0.0003 per crosstie.

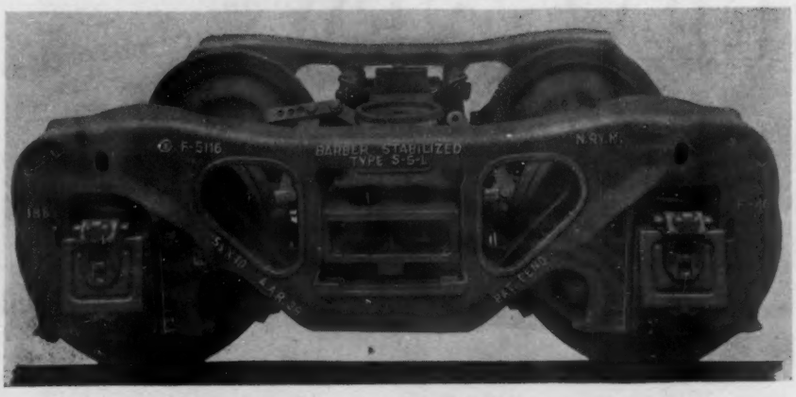
Refinements to Improve Use

Because it is the first system of its kind ever developed for handling crossties in a seasoning yard, many refinements have been developed during the course of installing and utilizing the equipment. However, results after more than six months' operation, not only indicate the practicability of the entire system but also point to additional refinements that undoubtedly will lead to still greater operating efficiency.

The standard stacking rick employed by the Southern Wood Preserving Company consists of 127 crossties and six months' experience in handling such loads with the carrier truck has indicated that its efficiency may be stepped up by using balloon tires with approximately 50 per cent additional ground contact area. Although the number of ties that the truck can handle per day depends on several factors, it is anticipated that the larger tires will permit the transportation of 700 to 1000 ties per hour.

The use of the truck also has indicated the desirability for a slight rearrangement of the seasoning yard and better drainage; particularly in the alleys between stacks of ties. This work has been held up because of the impossibility of securing suitable equipment. However, present plans anticipate that better drainage will be provided as the seasoned ties are removed from storage and before additional green ties are stacked for seasoning.

The figures in this article do not include the switching of ties. During the period of operation when cost figures were accumulated, it was found that the plant switch engine spent approximately the same amount of time in actual switching service in the tie yard as was formerly required. However, it can be easily seen that since the ties are switched in train loads of 700 or more at a time that the switching costs should compare favorably with the same switching costs under the old method of manual handling and stacking.



The Barber S-5-L stabilized freight-car truck

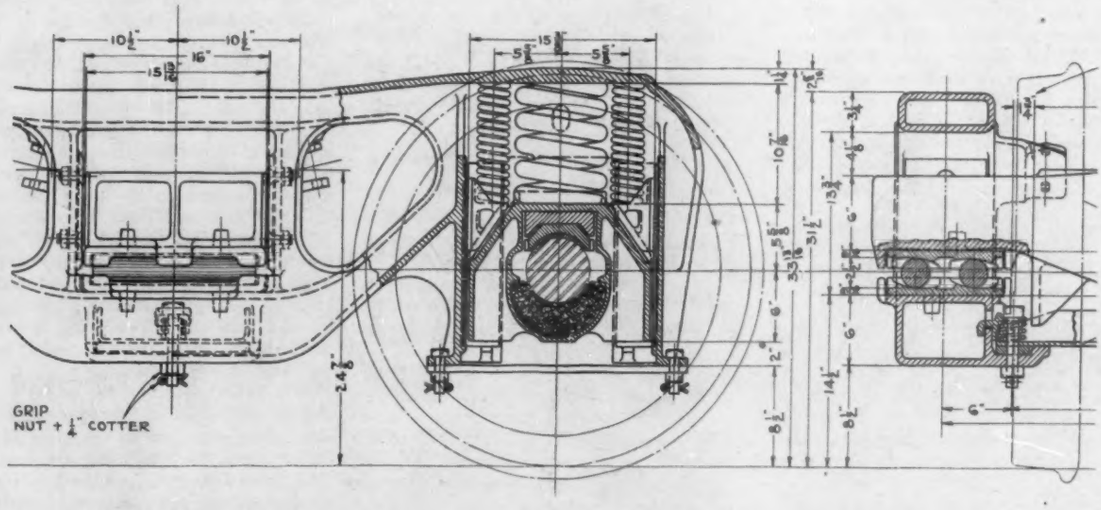
Barber Stabilized Truck

The Barber Stabilized truck for high-speed freight service, type S-5-L, manufactured by the Standard Car Truck Company, Chicago, embodies the use of a special Barber lateral-motion device for lateral control approaching that of swing hangers. This effect is secured by proper design of the curved-bearing surfaces of the drop-forged roller seats and caps. These contact double rollers at either end of the bolster, as shown in the sectional drawing. The contour of these curved surfaces is such that one end of the bolster rises slightly as it moves out under lateral impulse from the car body, as would be the case with a bolster supported by swing hangers.

Separate journal boxes of special design incorporate a built-in friction snubbing device at each pedestal opening as illustrated. Referring to the drawing it will be seen that all load-carrying springs are placed over the journal boxes which move in pedestal ways, these being equipped with hardened-steel wear plates. The spring-actuated taper wedge blocks shown are forced outward against the pedestal wear plates as the journal springs oscillate and the side frames move up and down under road shocks. The vertical shocks are thus snubbed out at the journal boxes and not transmitted to the truck side frames. This snubbing action on each journal box tends to eliminate galloping of the side frame and make the truck particularly easy riding and suitable for use either in high-speed freight service or under baggage-express and head-end box equipment in passenger-train interchange service.

The new Barber truck is considerably lighter than the conventional four-wheel cast-steel freight-car truck. Wheel changing is exceptionally easy, as the stabilizer parts, springs or journal boxes need not be removed when a wheel change is made. The new truck design has been approved by the A. A. R. for interchange service.

Pullman-type soap dispenser, designed by the West Disinfecting Co., Long Island City, N. Y., is all-metal, chrome plated, with a glass globe of one pint capacity



Cross-section details of the Barber bolster lateral-motion control and journal-box snubber

GENERAL NEWS

Five Months Deficit Totaled $40,000,000

Net railway operating income for the same period was $114,603,468

Class I railroads in the first five months of this year had an estimated deficit, after interest and rentals, of $40,000,000, as compared with a net income of $261,414,342 in the corresponding period of 1945, according to the Bureau of Railway Economics of the Association of American Railroads. The five-months' net railway operating income, before interest and rentals, was $114,603,468, compared with $448,579,005 in the same period last year.

May Results—May's estimated results show a deficit, after interest and rentals, of $36,000,000, compared with a net income of $64,648,791 in May, 1945, while the net railway operating deficit for that month was $4,779,574, compared with May, 1945's net railway operating income of $103,633,697. In the 12 months ended with May, the rate of return averaged 1.88 per cent, compared with 3.95 per cent for the 12 months ended May 31, 1945.

Gross in the five months totaled $2,965,368,250, compared with $3,877,377,074 in the same period of 1945, a decrease of 23.5 per cent, while operating expenses amounted to $2,568,469,201, compared with $2,653,033,611, a decrease of 3.2 per cent.

Sixty-nine Class I roads failed to earn interest and rentals in the first five months, of which 30 were in the Eastern district, 12 in the Southern region, and 27 in the Western district.

Class I roads in the Eastern district in the five months had an estimated deficit of $57,000,000, compared with a net income of $107,013,002 in the same period of 1945. For May alone, their estimated deficit was $26,000,000, compared with a net income of $26,812,973 in May, 1945.

The same roads in the five months had a net railway operating income of $8,920,733, compared with $191,886,679 in the same period of 1945. Their net railway operating deficit in May amounted to $12,345,928, compared with a net railway operating income of $45,858,954 in May, 1945.

Gross in the Eastern district in the five months totaled $1,290,931,711, a decrease of 22.2 per cent compared with the same period of 1945, while operating expenses totaled $1,167,848,613, a decrease of 4.3 per cent.

In the South—Class I roads in the Southern region in the five months had an estimated net income of $1,500,000, compared with $41,399,284 in the same period of 1945. For May, they had an estimated deficit of $5,000,000, compared with a net income of $7,824,218 in May, 1945.

The five-months' net railway operating income in the Southern region was $27,884,743, compared with $68,475,445 in the same period of 1945. The net railway operating income in May amounted to $167,305, compared with $13,196,514 in May, 1945.

Operating revenues in the Southern region in the five months totaled $437,854,979, a decrease of 22.4 per cent compared with the same period of 1945, while operating expenses totaled $365,314,775, or an increase of 1.6 per cent.

Class I roads in the Western district in the five months had an estimated net income of $15,500,000, compared with $113,002,056 in the same period of 1945. For May, they had an estimated deficit of $5,000,000, compared with a net income of $30,011,600 in May, 1945.

Those same roads in the five months had a net railway operating income of $77,797,992, compared with $188,216,881 in the same period of 1945. Their net railway operating income in May amounted to $7,399,049, compared with $44,578,229 in May, 1945.

Gross in the Western district in the five months totaled $1,236,581,560, a decrease of 25.2 per cent compared with the same period of 1945, while operating expenses totaled $1,035,305,813, a decrease of 3.5 per cent.

CLASS I RAILROADS — UNITED STATES

Month of May

		1946	1945
Total operating revenues		$ 532,553,368	$ 822,568,254
Total operating expenses		492,201,417	547,453,879
Operating ratio—per cent		92.42	66.55
Taxes		32,878,604	154,357,168
Net railway operating income (Earnings before charges)	Def	4,779,574	103,633,697
Net income, after charges (estimated)	Def	36,000,000	64,648,791

Five Months Ended May 31, 1946

Total operating revenues		$2,965,368,250	$3,877,377,074
Total operating expenses		2,568,469,201	2,653,033,611
Operating ratio—per cent		86.62	68.42
Taxes		223,092,606	700,167,990
Net railway operating income (Earnings before charges)		114,603,468	448,579,005
Net income, after charges (estimated)	Def	40,000,000	261,414,342

Meeting Discusses Soft Coal Research

Better utilization and more byproducts sought in expanding program

Intensive research, which is providing solutions for many of the bituminous coal industry's problems, received special attention at the Columbus, Ohio, annual meeting of Bituminous Coal Research, Inc., held June 28, and the conference of the technical advisory board the following day. Fifteen speakers reported the accomplishments that science and technology are making possible in the improved utilization of bituminous coal as approximately 200 executives and engineers assembled for the first meeting.

Dr. Harold J. Rose described the scientific achievements and activities of the organization that is now investing $375,000 annually in development work to make bituminous coal a better source of heat and energy. Dr. Rose, who is vice-president and director of research for B. C. R., stated that three laboratories, including Battelle Memorial Institute of Columbus, are conducting research under the general program. "Contracts have been signed with a fourth," Dr. Rose added. "Altogether, a total of 40 projects are under way."

The director also stated that particular emphasis is being given to smokeless methods of utilizing coal in houses and industrial plants and to expand investigational work on coal-fired railroad engines. Every effort is being made, he said, to retain the railroad fuel market for coal through research, and to hold home heating business.

Other speakers were Julian E. Tobey of New York, chairman of the technical advisory committee, and H. A. Glover of Huntington, W. Va., chairman of the sales advisory committee. The former outlined the "must" items that require immediate attention from the scientists retained by the coal industry, including improved equipment for home consumption of solid fuel and more compact stoker-fired boilers for industrial use. The latter pointed out that research is needed to improve coal-burning equipment and provide the tools with which a recently announced national coal heating service can build ready acceptance of solid fuel by the heat-buying public.

J. I. Yellott described the research activities of the B. C. R. locomotive development committee, of which he is director. This group is developing the coal-fired gas turbine to provide a new form of motive power for railroad locomotives. He was followed by Dr. H. H. Lowry, director of the coal research laboratory,

Carnegie Institute of Technology, who described chemical studies under way which ultimately will create new, useful products from coal as well as improve combustion and gasification processes.

Richard B. Engdahl, research engineer for Battelle, told of laboratory studies being made to improve chimneys. He also cited the success of overfire air jets, developed for B. C. R., in improving combustion and smoke abatement. He pointed out that jets are eliminating smoke from at least a thousand coal-burning locomotives; that the "application of the B. C. R. research information to date has demonstrated its worth" in controlling smoke from stationary plants.

There was considerable interest in the paper, "Improving the Iron Horse," presented by E. D. Benton of the Battelle staff. "Our research program," he said, "is directed toward investigations aimed at increasing the coal-fired locomotive's availability and efficiency. . . . The coal-fired steam engine is still a long way from being a back number, but all phases of its performance must be actively and aggressively investigated by research."

The last Battelle speaker, W. J. King, supplemented the earlier report of Mr. Yellott by giving some of the laboratory background that is helping to "advance the day when a coal-burning, gas-turbine-driven locomotive, that will outperform a Diesel locomotive, will be on the rails."

At least 60 persons attended the meeting of the technical advisory board held in the auditorium of Battelle Memorial Institute June 29, with Julian E. Tobey, chairman, presiding. The board heard reports from committee chairman, including the following:

Carroll F. Hardy, chief engineer, Appalachian Coals, Inc. spoke for the committee on hand-fired heating equipment. He advised that the laboratory is making progress on a smokeless furnace.

Fred K. Prosser, coal traffic manager, Norfolk & Western, reported for the residential stoker committee. He called on Battelle research engineers to describe the new "stoker wing" of the fuels division, use of which will speed up testing of conventional stokers and development of ash-removal types.

Eugene J. Kerr, manager of technical services, coal traffic department, Baltimore & Ohio, reported for the gasification and carbonization committee. It was stated that there is keen interest in "gas from coal" at this time.

Industrial utilization research was described by Vernon G. Leach, fuel engineer, Peabody Coal Company. He stated that completion of development work on the B. C. R. flowmeter, which measures the amounts of coal and air in a pulverized coal system, had released engineers for important research on a compact stoker-boiler unit for commercial and small industrial use.

Signaling Statistics

The Bureau of Safety, Interstate Commerce Commission, has completed its annual tabulation of statistics pertaining to block signals, interlocking, automatic train control, and the use of the telegraph and telephone for transmission of train orders on the railroads of the United States as of January 1, 1946. These tabulations are available for reference at the offices of the commission.

Automatic block signaling is in service on 69,839 miles of road, 101,389 miles of track. There are 7,736.4 miles of road, 14,120.8 miles of track and 6,606 locomotives and motor cars equipped with automatic train stop or train control devices, with or without automatic cab signals, and in addition there are 2,853.1 miles of road and 6,489.1 miles of track, and 4,244 locomotives and multiple-unit electric cars equipped with automatic cab signals only without automatic train control devices. A total of 4,316.4 miles of road and 8,944.5 miles of track are equipped for operation of locomotives with automatic cab signals.

There are 4,407 interlockings in service. Also, there are 328 installations of centralized traffic control on 6,495.0 miles of road. The installations now in service include a total of 1,161 passing sidings, 3,607 switches and 11,228 controlled signals.

The miles of road over which train orders are transmitted by telegraph decreased from 74,946 on January 1, 1945, to 71,572 on January 1, 1946, and the miles of road over which train orders are transmitted by telephone decreased from 150,608 to 145,647.

Anniversary of First Locomotive Patent

Exactly 110 years ago today, July 13, the Association of American Railroads has pointed out, the United States issued its first numbered patent, which was for a locomotive "designed to give a multiplied tractive power to the locomotive and to prevent the evil of the sliding of the wheels."

The patent was issued to John Ruggles, United States senator from Maine, who was largely responsible for the passage of the act of July 4, 1836, which set up the present day method of issuing and numbering patents. Senator Ruggles' invention was a gear-like arrangement for locomotive wheel and railroad rail which would mesh for grades and was outmoded almost as soon as it was patented. Steam locomotives of today contain around 1,000 patented features.

Reefer Tests in A. A. R. Study of "All-Purpose" Car

A series of road tests of railroad refrigerator cars is being conducted as part of an "extensive two-year research program to develop a standard all-purpose car for the more effiecient and dependable transportation of perishables," the Association of American Railroads announced on July 8. The tests are being carried on by the association with the cooperation and assistance of shippers, refrigerator car lines, the United Fresh Fruit & Vegetable Association and such agencies as the United States Department of Agriculture and the Interstate Commerce Commission.

Nine experimental runs confined primarily to matters of car design are scheduled for the summer months, the last of the series to take place in September. Later tests will deal with the service or perishable protective features of refrigerator cars. The runs scheduled for this summer include hauls of citrus from Florida to New York, citrus or tomatoes from Texas to Chicago, cantaloupes and citrus from California to New York, and frozen foods from the Northwest to New York.

Freight Car Loadings

Loadings of revenue freight for the week ended July 6 (which included the July 4 holiday) totaled 679,785 cars, the Association of American Railroads announced on July 11. This was a decrease of 199,760 cars, or 22.7 per cent, below the previous week, a decrease of 46,878 cars, or 6.5 per cent, under the corresponding week last year, and a decrease of 64,562 cars, or 8.7 per cent, below the comparable 1944 week.

Loading of revenue freight for the week ended June 29 totaled 879,545 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, June 29, 1946			
District	1946	1945	1944
Eastern	170,963	162,833	163,429
Allegheny	186,080	196,788	200,385
Pocahontas	65,943	53,817	53,484
Southern	133,142	123,833	122,599
Northwestern	116,124	136,919	134,666
Central Western	136,802	141,477	145,057
Southwestern	70,491	78,260	77,590
Total Western Districts	323,417	356,656	357,313
Total All Roads	879,545	893,947	897,210
Commodities:			
Grain and grain products	48,399	62,385	58,600
Livestock	12,583	13,308	13,950
Coal	184,667	174,556	174,492
Coke	12,732	14,668	14,331
Forest products	48,936	47,235	50,039
Ore	58,495	76,234	80,971
Merchandise l.c.l.	119,845	108,149	106,991
Miscellaneous	383,868	397,432	397,836
June 29	879,545	893,947	897,210
June 22	858,437	876,703	880,311
June 15	867,918	873,322	877,493
June 8	830,126	884,658	873,174
June 1	626,885	837,886	810,698
Cumulative total, 26 weeks	19,016,089	21,278,546	21,285,201

In Canada.—Carloadings for the week ended June 29 totaled 69,968 cars as compared with 71,096 cars for the previous week and 72,169 cars for the corresponding week last year, according to the compilation by the Dominion Bureau of Statistics.

Totals for Canada:	Revenue Cars Loaded	Total Cars Rec'd from Connections
June 29, 1946	69,968	35,477
June 30, 1945	72,169	37,051
Cumulative Totals for Canada:		
June 29, 1946	1,732,403	882,680
June 30, 1945	1,771,210	963,229

Reading Locomotives Featured in R. & L. H. S. Bulletin

The current issue of the Railway & Locomotive Historical Society Bulletin, No. 67, is devoted entirely to a history of the locomotives of the Reading Company, compiled by George M. Hart. The records of the motive power fall into three divisions; from 1836 to the abolition of names in December, 1872; from that date to the renumbering in 1900 and from that date to the present. The lists are presented in that order and each

list is accompanied by a history of the locomotives of the period. A map and short history of the railroad are included as well as numerous motive power illustrations. Copies are available from the Society at the Baker Library, Harvard Business School, Boston, Mass. Price to members is $1.00, and to non-members, $2.00.

McKee Honored at University of Kentucky

Neal Trimble McKee, vice-president of the Superheater Company, New York, received the honorary degree of doctor of science in engineering at the commencement exercises of the University of Kentucky on June 7. Mr. McKee graduated from the University of Kentucky in 1903 and received the M.E. degree from that institution in 1906.

Poppet Valves Tried on N. Y. C. Niagara Locomotive

The New York Central has taken delivery of a Niagara-type locomotive specially equipped with the Franklin system of cylinder steam distribution through the use of poppet valves. The new locomotive will be tested under road conditions in comparison with other locomotives of the Niagara coal-fired, steam-powered type, employing conventional piston-type valve operation, which will be the first time, the announcement said, that such direct comparison has been made between locomotives which are otherwise identical. The new Niagara, class S-2a, is the 27th locomotive of this type to be delivered to the New York Central by the American Locomotive Company.

Ceremonies Mark Extension of "Sunshine Special"

Inauguration July 7 of through passenger train service between New York and Washington and Texas cities, via St. Louis, with through Pullman cars between New York and Mexico City, was marked by an enthusiastic public reception, according to the participating railroads, with practically all space sold and many reservations made for dates far in advance.

The initial runs of the "Sunshine Special" from New York and Washington, operated to St. Louis by the Pennsylvania and thence to the Southwest by the Missouri Pacific and connections, were marked by special festivities at the eastern terminals. Ceremonies at Union station, Washington, were attended by officers of the Texas Society of Washington, the Pan American Union, the governments of the United States and Mexico, and the Pennsylvania.

Speaking from a platform decked with the flags of the 21 American republics, Dr. L. S. Rowe, director of the Pan American Union, said: "This new rail service marks a milestone in the development of closer relations between the American republics. This through service to Mexico City is a symbol of that great movement for Pan American unity which means so much to the peace and prosperity of the Western hemisphere."

Expressing his gratitude to the Texas Society and the Pan American Union for sponsoring the ceremonies, C. D. Young, vice-president of the Pennsylvania, spoke of the company's pride in taking another forward step in international through car operations in cooperation with other railroads.

Ceremonies at Pennsylvania station, New York, were attended by Enrique Elizondo, Mexican consul general, J. C. White, vice-president of the Pennsylvania, and representatives of the city government, the Texas Society of New York, and the Pan American Union. More serious parts of the program were interspersed with Mexican music provided by a 9-piece orchestra. In speaking, Senor Elizondo offered congratulations and good wishes of his government for the prosperity of "this new way of friendship" opened by the efforts of the railroads, and expressed the hope that the international service would contribute to greater mutual knowledge of the United States and Mexico.

June Export Grain Movement Was All-Time Record

An all-time record for the rail movement of grain to the ports for shipment overseas was established in June, according to the Association of American Railroads.

During last month, the A. A. R. said, 26,385 carloads of grain for export were delivered at the ports for transfer to ships. The previous peak month was last January, with 20,779 carloads. For the first half of this year, carloads of grain unloaded at ports totaled 98,567, an increase of 62 per cent over the corresponding period in 1945.

A. S. M. E. Technical Meeting at Chicago Cancelled

The A. S. M. E. Railroad Division technical program on further possible weight savings in passenger-car specialties and materials, originaly scheduled to be held at Chicago on June 19, has been cancelled for the Summer. It will be presented at the annual meeting of the Society at New York on December 4 and 5.

While the technical session of the Railroad Division at Chicago has been cancelled, the dinner and evening meeting in conjunction with and preceding the A. A. R. Mechanical and Purchases & Stores Division meetings will be held as planned at the

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Veterans Administration photo

A Model Railroad Exhibit

Constructed by the B. & O., it is currently making the rounds of several Veterans Administration hospitals, its purpose being to interest patients in model railroading as a hobby. Top right, a B. & O. public relations department member explains to patients of the V. A. hospital at Dayton, Ohio, the manner in which operation of the miniature model is governed by remote control from a master panel. Lower left, patients view operation of the model which occupies a platform 16 ft. by 34½ ft.

Congress hotel on August 7. Features of the dinner meeting will be an address on "The Challenge of the Future", by Samuel O. Dunn, editor *Railway Age*, and chairman, Simmons-Boardman Publishing Corporation, and the presentation of honorary membership in the A. S. M. E. to Ralph Budd, president of the Chicago, Burlington & Quincy.

A. A. R. Communications Section Meeting November 19-21

The Communications section, Operating-Transportation division of the Association of American Railroads has announced plans to hold the twenty-third annual session of the section at the Statler hotel, Detroit, Mich., on November 19, 20 and 21.

Emergency Boards

Chairman H. H. Schwartz of the National Railway Labor Panel has appointed an emergency board from the panel to investigate a dispute between the Norfolk Southern and its employees represented by the Brotherhood of Railway Clerks. The dispute involves the brotherhood's demand for time-and-one-half pay for work in excess of eight hours per day and for Sunday and holiday work.

Reports of panel boards which investigated disputes on the Union of Pittsburgh and the Ogden Union Railway & Depot Company were made public recently at the White House. Employees involved in the Union dispute were reperesented by the United Steelworkers of America, Congress of Industrial Organizations. Their grievances arose as a result of an agreement between that road and Brotherhood of Locomotive Engineers, entered after a September, 1945, election whereby the brotherhood extended its coverage of the road's engine service employees to include all hostlers, some of whom were formerly represented by the C. I. O. union. The agreement provided that hostler-helper jobs could be held only by employees having a minimum of two years' seniority on the firemen's roster, thus disqualifying some hostler-helpers from continuing in their jobs. The board recommended recognition by the B. of L. E. of seniority rights acquired by the hostler-helpers under the road's old agreement with the C. I. O. union.

Employees involved in the Ogden case were represented by the Brotherhood of Railway Clerks, the dispute arising out of the union's demand for modification of its agreement to eliminate the 11 exempted positions and the company's demand for cancellation of three "memorandum agreements" which were "subordinate to and interpretative of the general agreement." With respect to the exempted positions, the board expressed its view that the men filling them come within provisions of the Railway Labor Act, and it found that they should be brought under all provisions of the agreement, except those relating to selection on the basis of seniority. Thus, as the board put it, the carrier would not be prevented "from exercising its rights in the selection of men for key positions, such as herein set out, regardless of seniority rights." The three memorandum agreements in issue related to conditions under which the company could employ part-time workers; and the board recommended that one of them be cancelled because of changed conditions, and that the other two be continued with modifications.

* * *

Richard K. Mellon, a member of the board of directors of the Union Switch & Signal Company, Swissvale, Pa., congratulating George A. Blackmore (right), chairman of the board and chief executive officer of the company, upon the 50th anniversary of his association with it. In the background is the commemorative plaque, affixed to the wall in the foyer of the company's office building, dedicated with appropriate ceremonies on July 1, as reported in *Railway Age* last week

Creosote Shipments from Great Britain to Be Resumed

Great Britain, whose hesitancy to export coal tar creosote to this country since V-J Day has seriously threatened supplies of poles, piling, crossties and similar products needed by railway, utility and communications systems, is understood to have informed the State Department that it will export six million gallons of creosote during the last half of 1946.

The intervention of the federal government had been requested by J. F. Linthicum, president of the Americal Lumber & Treating Co., Chicago, in a letter to John D. Small, administrator of the Civilian Production Administration. Although the promised shipment is less than one-sixth of that imported annually in the period from 1931 to 1941, the six million gallons it is expected to aid measurably in bolstering already depleted stocks of creosote in this country. Domestic production of creosote, a by-product of coke, declined sharply after V-J Day as a result of strikes in the coal and steel industries, and the nation's wood preservers faced a shortage of at least 20 million gallons in 1946 until Great Britain's announcement that exports would be resumed. Many wood preserving plants have been forced to shut down in recent months for lack of the product.

Club Meetings

The twenty-third annual meeting of the Associated Traffic Clubs of America will be held in the Neil House, Columbus, Ohio, September 30 through October 2. The program will include several addresses on transportation subjects, presentation of national awards for meritorious service, committee reports and election of officers.

The 77th regular quarterly meeting of the Northwest Shippers Advisory Board will be held in Duluth, Minn., on July 24. Included in the list of speakers who will address the gathering in the Hotel Duluth are R. E. Clark, manager car service division, Association of American Railroads; O. W. Galloway, Pillsbury Flour Mills, Minneapolis, Minn., and Sidney Anderson, vice-president of General Mills, Inc., Minneapolis.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION. — J. F. Gettrust, P. O. Box 5522, Chicago 80, Ill. Exhibit in connection with meetings of Coordinated Mechanical Associations, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS. — E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC

OFFICERS.—B. D. Branch. C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—W. J. Walsh, B. & O. R. R., Baltimore 1, Md.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual Meeting, March 18-20, 1947, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Virginia Tanner, Baltimore & Ohio Magazine, Room 1202, B. & O. Bldg., Baltimore 1, Md.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. P. Nye, Tower Bldg., Washington 5, D. C. Annual meeting, October 2-3, 1946, Morrison Hotel, Chicago, Ill.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y.

Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St, Chicago 3, Ill.

AMERICAN TRANSIT ASSOCIATION.—A. W. Baker, 292 Madison Ave., New York 17, N. Y. Annual business meeting, September 16-18, 1946, Palmer House, Chicago, Ill.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C. Annual meeting, 1947, Portland, Ore.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—H. S. Whited, 5th & T Sts., N. E., Washington 2, D. C. Annual meeting October 8-10, 1946, Boston, Mass.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.—Clark Hungerford, Vice-President, Transportation Bldg., Washington 6, D. C.

Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.

Communications Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y. Annual meeting, September 10-13, 1946, Hotel Statler, Detroit, Mich.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, October 28, 1946, Hotel Sherman, Chicago, Ill.

Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 18-20, 1947, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 18-20, 1947, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 23, 1946, Hotel Sherman, Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, October 14-16, 1946, New Ocean House, Swampscott, Mass.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, August 8-9, 1946, Congress Hotel, Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 23-25, 1946, Hotel Sherman, Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C. Annual meeting, August 8-9, 1946, Palmer House, Chicago, Ill.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago 5, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.

Car Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation Department—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill. Exhibit in conjunction with American Railway Bridge & Building Association Convention, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph J. Feddor, 2803 N. Campbell Ave., Chicago 18, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, November 12-15, 1946, Los Angeles, Cal.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—W. B. Shepherd, Aluminum Company of America, Gulf Bldg., Pittsburgh 19, Pa. Annual meeting, October, 1946.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION.—E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Calif.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Illinois. Annual dinner, November 21, 1946, Waldorf-Astoria Hotel, New York, N. Y.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill. Exhibit in conjunction with meeting of the Electrical Section of the Mechanical Division of the A. A. R., October 23-25, 1946, Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section, of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill. Exhibit in connection with Roadmasters' and Maintenance of Way Association Convention, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 225 Bidwell Ave., Westerleigh, Staten Island 2, N. Y. Annual meeting, October 12-13, 1946, Baltimore, Md.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

General News Department is continued on page 81.

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Photo courtesy of W. A. Lucas

An inspection train of the Wilkes-Barre & Eastern on Panther Creek viaduct in 1906

With the Government Agencies

Original Crosser Bill Passed by the House

Lea amendments first adopted without record votes but killed on roll call

Passage by the House of the original Crosser bill embodying the Railway Labor Executives' Association program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance acts came on July 3 by a roll-call vote of 235 to 49, with 148 members not voting, after a previous roll call had accomplished a mass killing of a series of amendments sponsored by Chairman Lea of the committee on interstate and foreign commerce and adopted tentatively by the House when it sat as a "committee of the whole" for preliminary consideration of the measure. The bill, which now goes to the Senate, is H. R. 1362, sponsored by Representative Crosser, Democrat of Ohio.

Committee Proposals — The Lea amendments were an undertaking to rebuild in piecemeal fashion the rewritten version of the bill which was reported from the committee on interstate and foreign commerce in the form of a proposed substitute and rejected by the House on June 20, as noted in the *Railway Age* of June 29, page 1277. Among other things, they would have struck out provisions extending the coverage to freight forwarders, railroad-controlled trucking companies, and certain companies whose services are used by railroads; trimmed to the general Social Security Act level the proposed new survivor benefits which the bill puts at 25 per cent above that level; and restricted the liberalized disability provisions to service-connected disabilities.

Also Mr. Lea undertook to strike out all proposals for liberalizing the Unemployment Insurance Act, where the bill increases the amount and duration of unemployment benefits and adds sickness and maternity benefits—all to be financed out of the unemployment levy of three per cent of taxable payroll which is paid entirely by the railroads. In the latter connection, the chairman of the interstate and foreign commerce committee offered another amendment which would have followed the committee substitute's plan of providing sliding-scale unemployment taxes, bringing the railroads an immediate cut of 2½ per cent to offset their share of the additional levy to cover liberalizing amendments to the Retirement Act and to make the retirement system actuarially sound.

Other Lea amendments would have eliminated various provisions designed to build up the power of the Railroad Retirement Board. These include the proposal to transfer retirement tax collections from the Bureau of Internal Revenue to the board, and provisions to make Retirement Board determinations binding on the Social Security Board and the Bureau of Internal Revenue.

As noted above, all of these amendments were accepted when the House sat on the bill as a "committee of the whole" when no record votes are taken. Then the measure as thus amended was reported "back to the House." Hearing no demand for a separate vote on any of the amendments, the speaker put them before the House in gross and a roll call was demanded by Representatives Crosser and Marcantonio, American Labor of New York. Thus were all the amendments killed on the one roll call by a vote of 180 to 108 with 144 not voting. Amendments which had been offered by Mr. Crosser and others were also killed with the Lea proposals. None of the bill's supporters, however, had indicated any disposition to eliminate the maternity benefits as earlier debate hinted that they might.

Many Non-Voters—In the roll-call vote on the amendments, Chairman Lea mustered the support of 13 of his 28 committee members while nine voted against the amendments and six were recorded as not voting. On the roll call which resulted in passage of the bill, 12 members of the committee on interstate and foreign commerce voted for it while nine were against and seven did not vote.

Among those voting for the original Crosser bill on this final roll call was Representative Wolverton, Republican of New Jersey, ranking minority member of the committee who had fought in turn for the committee substitute and Lea amendments. However, the final result was well indicated before Mr. Wolverton's name was reached on the roll call. Meanwhile the committee members who were with Chairman Lea on the final roll call included only one of the committee's 16 other Democrats, Representative Chapman of Kentucky, and six of the committee's 11 Republicans — Representatives Brown of Ohio, Gillette of Pennsylvania, Leonard W. Hall of New York, Halleck of Indiana, Holmes of Massachusetts, O'Hara of Minnesota, and Winter of Kansas. Representative Bulwinkle, Democrat of North Carolina, who was a strong supporter of the committee substitute was among those recorded as not voting.

Following the House's action, the Association of American Railroads made available a memorandum headed "Gambling with Security," which outlined the legislative history of the bill. Calling the measure as it now stands "a reckless gamble," the A. A. R. statement listed seven "major objections," the list including an assertion that "if other workers are to be treated as well as railroad men, the total cost of social security payments is

(*Continued on page 69*)

Parmelee and Duncan Heard in Gas Inquiry

Make principal railroad presentations before Federal Power Commission

Drs. Julius H. Parmelee and C. S Duncan, directors, respectively, of the Association of American Railroads' Bureau of Railway Economics and its Division of Competitive Transportation Research, made the principal railroad presentations at last week's sessions of a concluding series of public hearings which the Federal Power Commission has been holding at Washington, D. C., in connection with its Natural Gas Investigation. The investigation, of which Commissioner Nelson Lee Smith is supervising commissioner, is the general "fact finding survey" which F. P. C. launched last fall, the Washington sessions having been preceded by a series of regional hearings in natural gas producing and consuming centers.

Railroad witnesses, in addition to Drs. Parmelee and Duncan, included Graham E. Getty, statistician, Bureau of Railway Economics; Eugene Wettling of the Western Lines' Statistical Bureau; R. G. Raasch, chairman, Illinois Freight Association; O. E. Schultz, chairman, Coal and Coke Committee, Trunk Line Association; and R. S. Kern, chairman, Coal, Coke and Iron Ore Committee, Central Freight Association. Generally they contented themselves with informing the F. P. C. of conditions within the railroad industry without specific arguments against extension of natural gas pipe lines. Mr. Raasch did, however, present data showing how the consumption of coal hauled by railroads had been adversely affected by the building of gas pipe lines into some midwestern cities.

A Question of Policy—The Parmelee and Duncan presentations in general discussed the traffic and revenue outlook, emphasized how the railroads had demonstrated their indispensability during the war, stressed the competition which the carriers already face, and suggested the desirability from the standpoint of national policy of safeguarding them against "uneconomic competition."

Pointing out that the railroads met the "tremendous demands" brought about by the war, Dr. Parmelee said that "if the railroads can obtain and retain a sufficient volume of traffic, they can earn enough to place them upon a sound financial basis."

"It would seem to follow," he continued, "that the nation needs its railroads, which can handle any kind of goods at any time, and anywhere, whether for civilian requirements or for preservation of our national security. Sound national policy, such as clearly set forth in the declaration by Con-

gress of its transportation policy, in the Transportation Act of 1940, calls for the maintenance of every system of transportation in the United States in healthy condition. This cannot be brought about unless the interests of every agency of transport, and especially the railroads, are safeguarded against uneconomic competition."

Referring to rail movement of petroleum between 1941 and 1945, Dr. Parmelee said that the daily average of 88,890 barrels moved in September, 1941, increased to a daily peak of 1,003,976 in July, 1943, and then dropped to 82,140 barrels daily in September, 1945. The 1943 increase was attributed to suspension of tanker movements during the submarine menace. Movement of coal to New England, of which 30.2 per cent was transported by water and 69.8 per cent by rail in 1943, also has returned to its pre-war proportions, according to Dr. Parmelee's testimony, his estimate disclosing that 44.7 per cent was shipped via water in 1945.

In a further discussion of railroad trends, Dr. Parmelee testified that "in the five war years, 1941-1945, operating revenues were practically double those of the preceding five years, and one-third greater than in the pre-war peak period, 1926-1930. Notwithstanding these greater revenues, net railway operating income was only 4 per cent greater than in the five-year period, 1926-1930, while net income after charges was actually less. The rail industry did not earn excessive net incomes during the war period."

The A. A. R. witness said that the net railway operating income per dollar of revenue declined from 19.9 cents per dollar in 1942 to 9.6 cents in 1945. In addition to citing the increased costs of labor over previous years, he called attention to the generally upward trend in the tax ratio, which rose from 6.3 cents per dollar of revenue in 1929 to 20.4 cents in 1943. He said the 1945 level was 9.3 cents.

"As to traffic volume," he continued, "ton-miles in the first four months of 1946 decreased by 23.3 per cent, compared with the corresponding months of 1945; this decrease was accentuated by the almost complete stoppage of bituminous coal production during the month of April. Passenger-miles showed a decrease of 10.2 per cent. Preliminary statistics for May indicate a decrease in that month of 40 per cent in ton-miles, and 33 per cent in passenger-miles."

Asserting that railroad freight rates today are no higher than they were in the immediate pre-war period, Dr. Parmelee said that variations in the average revenue per ton-mile during the war were largely the result of changes in the composition of the freight traffic and a considerable increase in the average length of haul.

Gross Up, Net Down—He observed that net operating income from freight service reached a peak of $1,394 million in 1942, and that although total freight service revenue in 1944 was more than one billion dollars greater than in 1942, net operating income from freight service decreased to $871 million. He added that it decreased to $619 million in 1945. A large decrease in passenger net operating income also was forecast. "Passenger traffic volume was a significant factor in keeping railroad net earnings at the high levels of the war," he declared, "and its rapid decrease will be as significant a factor in reducing that net."

"Further increases in wage rates and material prices in 1946, together with declining traffic volumes, threaten to wipe out net earnings altogether," Dr. Parmelee had previously said. "Indeed, Class I railroads as a group failed to earn their interest and other charges in the first four months of 1946, the latest period for which figures are available.

"Railroad facilities were subjected to hard usage during the war. They are in need of rehabilitation, modernization and replacement, such as took place following the first World War.

"Only adequate earnings will ensure the success of a modernization program. Increasing operating costs, together with prospects for continuing traffic losses to other forms of transport, offer the railroads serious problems at this time."

Competitive Relations—Speaking on the competitive phases of transportation, Dr. Duncan testified that in the years prior to the war, the railroads were handling "slightly less" than two-thirds of the total ton-miles.

"The proportion of total ton-miles moved by railroads increased from 61.96 per cent in 1940 to 71.97 per cent in 1943 and was slightly less (69.92) in 1944," he said. "It should be noted that the ton-miles by railroad increased in 1944 over 1940 by 366,663 million ton-miles or 96.71 per cent. In contrast, highway motor carriers of property declined as to the proportion of total ton-miles created by them from 8.33 per cent in 1940 to 4.62 per cent in 1944. This was a decrease in ton-miles of 1,695 million or 3.32 per cent.

"Inland waterways, excluding the Great Lakes, created 3.66 per cent of total ton-miles in 1940 and 1.91 in 1944. This meant a decrease of 2,031 million ton-miles or 9.05 per cent. The Great Lakes created 15.63 per cent of the ton-miles in 1940 and 11.13 per cent in 1944. The total ton-miles had increased so greatly that this smaller proportion of the total ton-miles represented an increase on the Great Lakes of 23,124 million ton-miles or 24.18 per cent.

"Oil pipe line traffic represented 10.24 per cent of total ton-miles in 1940 and 12.41 per cent in 1944. The increase in ton-miles by pipe-line was 68,591 million ton-miles and 107.60 per cent. This increase was due in large degree to the advent of the Big and Little Inch pipelines built by the government."

Stressing the greatly increased reliance upon railroads to meet war demands, Dr. Duncan said that military officials have estimated that the railroads carried upward of 90 per cent of war material. "With no additional mileage, with few additional cars or locomotives but with a far more intensive use of facilities, the ability of the railroads to serve was tremendously expanded," he pointed out.

As did Dr. Parmelee, Dr. Duncan also emphasized the "predominant position" taken by the railroads in the movement of crude oil and refined products, among other products, to the east coast and other points after war conditions had driven coastwise tankers off the seas.

Post-War Prospects—Turning to the post-war period, Dr. Duncan referred to a revised edition of a study of post-war levels published in 1944 by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. "It may be of interest to note some phases of this study," Dr. Duncan said. "The primary assumption is that trends of traffic and the competitive situation that existed before the war will be resumed thereafter. . . . The theory is that volume of freight traffic depends on the level of business, and the best business indicator is national income. If, therefore, national income can be foretold, traffic levels can be forecast. Future national income can be estimated and, therefore, traffic levels can be estimated. Railroad freight, it says, follows national income and railroad passenger traffic follows railroad freight traffic.

"On this assumption and on this theory the study by this division of research in the commission made the forecast that in the post-war years railroad freight traffic would be about two per cent above 1941 but that the railroads would continue to lose traffic to competitors as before the war. Traffic of these competing agencies will increase at a greater ratio than railroad traffic. Passenger traffic will return to the private passenger car. Waterborne traffic will resume its pre-war position of importance. Trucks, both for hire and of private registry, will continue to gain traffic and at a faster rate than the older forms of transport. In the earlier years after the war, air transport will not be important as a freight carrier.

"Other forecasts of transportation trends are not far out of line with those made by the division of research in the Interstate Commerce Commission. All agree that the competitive situation will be intense, that, generally speaking, there will be a buyer's market in transportation. Competition will be very keen. If it be true that the transportation situation returns to pre-war conditions, there will then be a return of the problem as to how an adequate system of transportation made up of these important agencies can be sustained by revenues from the traffic moving."

Coastwise Steamship Service Inaugurated July 12

Steamship service between North Atlantic ports and the Gulf coast from New Orleans, La., to Tampa, Fla., commenced on July 12, it was announced recently by the War Shipping Administration. The service is operated by the Pan-Atlantic Steamship Company as agent for the W.S.A.

Weekly sailings will be provided from Boston, Mass., New York and Philadelphia, Pa., to New Orleans, Mobile, Ala., Panama City, Fla., and Tampa, returning northbound weekly to the same ports. No refrigeration service is planned for the present, "pending adjustment of rates on citrus fruits from Florida to North Atlantic ports, now before the Interstate Commerce Commission," as the W. S. A. announcement put it.

It went on to say that W. S. A. is acting

on "strong requests" from the Secretary of Agriculture, the Office of Defense Transportation and other government agencies "to supply all practical coastwise service as an aid to rapid reconversion and overcoming of the critical car shortages now being experienced."

The first southbound ship was scheduled to leave Boston on July 12, followed by sailings from New York and Philadelphia on July 16 and 18, respectively. The initial northbound sailing will originate from New Orleans on July 26, it was indicated.

May Accident Statistics

The Interstate Commerce Commission on July 9 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for May and this year's first five months. The compilation, which is subject to revision, follows:

Item	Month of May		5 months ended with May	
	1946	1945	1946	1945
Injured	3,271	4,689	21,157	25,275
Number of train accidents*	949	1,364	5,995	7,457
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	119	130	541	563
Injured	94	126	385	460
Passengers on trains:				
(a) In train accidents*				
Killed	2	1	46	2
Injured	18	119	598	686
(b) In train-service accidents				
Killed	3	2	26	21
Injured	192	213	1,082	1,023
Travelers not on trains:				
Killed	—	2	10	3
Injured	63	70	447	479
Employees on duty:				
Killed	42	59	280	372
Injured	2,454	3,627	15,768	19,542
All other nontrespassers:**				
Killed	157	140	868	845
Injured	450	534	2,877	3,085
Total—All classes of persons:				
Killed	323	334	1,771	1,806
Injured	3,271	4,689	21,157	25,275

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	146	128	825	774
Injured	280	310	1,901	1,799

$520 Million River and Harbor Bill Goes to President

Congressional action on the omnibus rivers and harbors bill was completed July 10 when the Senate adopted the conference report on the measure which in its final version authorizes 61 projects estimated to cost a total of $520,395,070. The conference report was adopted on the previous day by the House, which, however, refused to act until the original report had been modified to eliminate the $95,000,000 which the Senate had added to the $55,000,000 authorized by the House for work on the Arkansas river and its tributaries, a project which is expected to involve a total cost of $435,000,000.

Authorization for the $116,941,000 Tennessee-Tombigbee waterway remains in the bill, the Senate having rejected an amendment to eliminate it which was offered by Senator Robertson, Republican of Wyoming. Meanwhile, neither the Senate committee on commerce nor the Senate itself undertook to restore the $82,000,000 Big Sandy river project which was eliminated on the floor of the House after it had been included in the bill as reported from that body's committee on rivers and harbors.

Part of this proposed Big Sandy project would involve work in Kentucky; and the interest of Majority Leader Barkley, who is one of Kentucky's senators, was indicated when the bill was under consideration in the Senate. Senator Overton, Democrat of Louisiana, a member of the committee on commerce, told the majority leader that the opponents of Big Sandy "seem to have come here in very large numbers and to have swamped the proponents." Thus the Louisianan suggested that the project be deferred until the next rivers and harbors bill; and Mr. Barkley made no effort to have it approved at this time.

He did, however, take occasion to observe that "of course, the railroads do not want the project," and he went on to say: "As a rule they have opposed river improvements—I think under a very mistaken policy. If that attitude had been pursued throughout the country we would never have had any river improvements. As a matter of fact, rail transportation has not been injured by river improvements, and in many cases has been improved and benefitted thereby."

Hobbs Anti-Racketeering Bill Signed by President

President Truman has signed the recently-enacted Hobbs bill, H. R. 32, which makes it a felony for any person to commit robbery or extortion which in any way obstructs, delays, or affects interstate commerce or the movement of any article or commodity in interstate commerce. The bill, introduced by Representative Hobbs, Democrat of Alabama, is aimed particularly at situations wherein owners of trucks entering certain cities have been required to pay members of local unions to drive and unload within the city.

The Alabaman had been sponsoring such legislation since 1942, when the United States Supreme Court decided a case involving the situation at New York and Local 807 of the International Brotherhood of Teamsters, ruling that labor unions were exempted from prosecution under the then existing law. Final Congressional action on the bill as a separate measure came after President had vetoed the Case strike-control bill into which provisions of the Hobbs bill had been incorporated.

In notifying Congress that he had approved the Hobbs bill, President Truman said he had been advised by Attorney General Clark that it "does not in any way interfere with the rights of unions in carrying out their legitimate objectives." As the President also noted, the bill provides that nothing in it "shall be construed to repeal, modify, or affect the Railway Labor Act, the Norris-LaGuardia Act, and specified sections of the Clayton Act, the great legislative safeguards which the Congress has established for the protection of labor in the exercise of its fundamental rights."

The bill defines "robbery" as the unlawful taking or obtaining of personal property, from the person or in the presence of another, against his will, by means of actual or threatened force, or violence, or fear of injury, immediate or future to his person or property, or property in his custody or possession, or the person or property of a relative or member of his family or of anyone in his company at the time of the taking or obtaining." The term "extortion" is defined to mean "the obtaining of property from another, with his consent, induced by wrongful use of actual or threatened force, violence, or fear, or under color of official right." Violations of the act are punishable by imprisonment for not more than 20 years or by a fine of not more than $10,000, or both.

Shipping Agencies Make Rate Complaint More Specific

The War Shipping Administration and the United States Maritime Commission have filed with the Interstate Commerce Commission an itemization of individual railroad freight rates and practices which they contend "are unfairly competitive with domestic water carrier rates." The itemization came in response to the letter from I. C. C. Chairman Barnard (see *Railway Age* of June 22, page 1230), who stated that the shipping agencies' pending petition for an investigation did not identify the assailed railroad rates and practices with sufficient particularity.

The petitioners have now added to their complaint four appendices which, a press release from them said, "specifically identify railroad rates and practices materially and adversely affecting Atlantic, Atlantic-Gulf of Mexico, intercoastal and Pacific coastwise water-borne traffic." In filing the new material, the W. S. A. and the U. S. M. C. expressed their belief that it specified rates "with sufficient clearness to permit delimitation of the scope of the proceeding and a determination as to whether separate investigations would expedite final decisions in ecrtain particular situations."

Would Prescribe Regulations for Motor Freight Brokers

Prescription by the Interstate Commerce Commission of 13 rules governing practices of motor carrier brokers, other than those engaged solely in the transportation of passengers and their baggage, has been recommended in a proposed report by Examiner James J. Williams. This report is in Ex Parte MC-39, the general investigation of the matter instituted by the Commission on its own motion.

According to Examiner Williams, the purpose of the investigation was "not to annihilate brokers, but to effectively regulate them." He added that it is "the purpose of these rules and regulations to reach out and require that all brokerage activities be conducted in such a manner as will inure to the benefit of the public as well as the transportation industry." And he expressed his belief that the rules and recommended regulations will go "a long way toward accomplishing the ends sought."

Analyzing each of the proposed rules in detail, Examiner Williams recommends a

clearer definition of "broker" and "bona fide agent"; adoption of a definition of "household goods" as defined in Practices of Motor Carriers of Household Goods, 17 M. C. C. 467; and a requirement that brokers maintain records for three years.

Another of the recommended rules would limit brokerage charges to 15 per cent of the legally applicable transportation charge for the shipment of household goods and would establish a limit of 10 per cent brokerage fees for services in connection with general freight or other than household goods shipments. In addition, the examiner would require each broker charging for non-brokerage services to file with the commission a schedule of those services held out and the basis of charges.

Roads Seek Bigger Temporary Boost in Coal Rates

Railroads have asked the Interstate Commerce Commission to authorize larger increases in rates on coal, lignite, and coke than were approved in the recent decision authorizing the temporary advance which became effective July 1 pending the further hearing in the Ex Parte 162 and reopened Ex Parte 148 cases. The carriers seek to make the increases on coal, coke, and lignite 15 cents per net ton and 17 cents per gross ton above the pre-July 1 rates, as compared with the authorized and presently-effective increases of 6 cents per net ton or 7 cents per gross ton in rates of $1 per ton or less, and 8 cents per net ton or 9 cents per gross ton in rates in excess of $1 per ton.

The railroad petition recalled that the range of increases sought by the carriers was from 15 cents per net ton or 17 cents per gross ton up to 40 cents per net ton or 45 cents per gross ton. Thus it pointed out that the temporary increases are "considerably below" the minimum advances sought. It calculates that they average 3.5 per cent "in contrast to the average percentage increase of 6.5 per cent in the rates on all traffic."

"The significance of this comparison," the petition added, "is emphasized by the fact that coal traffic is the most important single item of traffic of the petitioning carriers." It went on to assert that the "inadequacy" of the "nominal" increases authorized "is especially apparent when consideration is given to the increases in prices of these fuels authorized by the Office of Price Administration subsequent to the date of the commision's decision." The reference is to O.P.A.'s action of June 21 (the commission's decision being of the 20th) authorizing increased prices averaging "approximately 40 cents per net ton" on bituminous coal, "approximately 91 cents per net ton" on anthracite, and $1.35 per net ton on coke. The commission was reminded that "increased prices on coal directly affect railroads in a very material way, for they use coal for fuel in vast quantities and consume more coal than any other industry."

It is next asserted that the proposed increases will bring the rates on coal, lignite, and coke to a level "not more than approximately 6.5 per cent above the general rate level in effect on these commodities on June 30," and the advance on those commodities would thus be "more nearly in line with the average increases allowed on other commodities."

As the carriers read the record of the hearings which preceded the commission's June 20 report, there was "very little opposition" to the increases now proposed on bituminous coal, "such opposition as was registered being directed chiefly to increases above 15 cents per net ton or 17 cents per gross ton." As to anthracite, "the opposition to increases was directed principally against petitioners' proposal to make greater increases on that commodity within eastern territory than on bituminous coal."

The petition further suggested that immediate action by the commission with respect to the present request "should not delay or otherwise interfere with the process of disposing of all pending issues in these proceedings, following hearings scheduled to begin at Chicago on July 22, 1946." It went on to submit that "the increases herein proposed should be authorized as an emergency measure, without further hearing, and on one day's notice, without prejudice to further action by the commission on petitioners' entire proposal as it applies to rates on bituminous coal, lignite, anthracite, and other commodities following further hearing in these proceedings."

Meanwhile the commission has made public a reply made by its secretary, W. P. Bartel, to a July 2 letter wherein W. J. Kelly, assistant to vice-president, Association of American Railroads, referred to that part of the June 20 report's findings which authorized the carriers in Official Classification territory to increase their rates five per cent above the increases authorized by the original decision in Ex Parte 148, "subject to maintenance of recognized or existing port differentials," and asked that the carriers be allowed six months to restore such differentials. Secretary Bartel told Mr. Kelly that the matter had been considered by the commission's Division 2, and that he had been instructed to reply as follows:

"Dealing first with several questions propounded in your letter, it may be stated that the quoted language in the report had reference to recognized or established port differentials existing on the date of the decision, not alone between ports in Eastern territory but between those ports and ports in other territories. It did not refer to local rates to and from the several ports, but only to rates the application of which is conditioned upon a prior or subsequent water movement beyond the ports. It was not intended that the differentials be maintained or reinstated predominantly by further increases in the port rates or predominantly by reductions, but rather that the required results be attained by a combination of increases and reductions which on the average would produce for the carriers serving the ports, collectively and not individually, substantially the same amount of added revenue as would result from the percentage increase approved in the report for general application.

"It is appreciated that complete restoration of pre-existing port differentials is an involved process and that if done now it will quite possibly have to be done again after final decision in Ex Parte 148 and Ex Parte 162 is announced. Nevertheless, the outstanding decision is explicit on the point, the carriers have already restored the differentials with respect to grain at North Atlantic ports and the commission will expect them to proceed without avoidable delay to restore the port differentials on other commodities, dealing with the various rate adjustments in the order of their importance and giving preference, also, to any particular rate adjustment which this office may bring to the attention of the carriers for that purpose.

"If this method of proceeding is not satisfactory to the carriers, their recourse is to petition promptly for a modification of the commission's findings."

Roads Fined for Service and Safety Violations

Secretary W. P. Bartel of the Interstate Commerce Commission announced on July 2 that the commission has been advised that on June 27, in the federal court at Sioux City, Iowa, the Chicago, St. Paul, Minneapolis & Omaha confessed judgment in a complaint filed against it in the principal sum of $1,000 and $27.20 costs. The judgment was entered and paid on the same date.

The complaint, drafted in 10 counts, was filed under the provisions of paragraph 17 (a) of Section 1 of the Interstate Commerce Act, and charged the carrier with failure to observe the provisions of Service Order No. 244 in furnishing empty cars to shippers for the loading of grain at Sioux City.

Secretary Bartel also announced on July 2 that the commission has been advised that a plea of guilty was entered on behalf of the Northern Pacific at Tacoma, Wash., on June 25, to an indictment in one count which charged a violation of Section 235 of the Criminal Code, growing out of an infraction of the commission's regulations governing the transportation of explosives and other dangerous articles. A fine of $250 plus costs was imposed.

The specific offense charged in the indictment was the cutting off while in motion of a carload of freight placarded "Explosives" in the freight yards of the carrier at Tacoma, and permitting the car to run on its own momentum into a track.

On July 5, Secretary Bartel announced that the commission had been advised that on June 28, in federal court at Omaha, Neb., the Chicago, Burlington & Quincy, the Chicago & North Western, the Illinois Central and Guy A. Thompson, trustee of the Missouri Pacific, each confessed judgment to complaints filed against them for their failure to observe the provisions of Service Order No. 244 in furnishing empty cars to shippers for loading grain at Omaha.

Each complaint was drafted in 10 counts and each carrier, with the exception of the M. P., confessed judgment in the entire complaint. The court entered judgment in the amount of $100 on each count, totalling $1,000 and costs in each case. The M. P. confessed judgment in nine of the ten counts of the complaint, the court entering judgment in the amount of $100 on each count, totalling $900 and costs.

On July 9, Secretary Bartel announced that the commission had been advised that on July 2, the Atchison, Topeka & Santa Fe entered in the New Mexico federal

court a plea of nolo contendere to an information in two counts charging violations of Section 235 of the Criminal Code, arising out of the failure of that carrier to comply with the commission's regulations governing the transportation of explosives and other dangerous articles.

The specific offenses charged in the information were the improper placing of a carload of freight placarded "explosives" in a local freight train next to the engine and the cutting off of a carload of freight similarly placarded while in motion in switch service. A fine of $100 on each of the two counts contained in the information was imposed by the court.

Secretary Bartel also announced that the commission has been advised that a plea of guilty was entered on behalf of the Southern Pacific Company in the federal court at San Francisco on July 1, upon an information in three counts charging violations of section 235 of the Criminal Code growing out of violations of the commission's regulations governing the transportation of explosives and other dangerous articles. A fine of $1,500 was imposed.

The specific offenses charged in the information were that a car placarded "explosives" was placed in a through freight train in a position ninth from the engine at Watsonville Junction, Calif., and that two other cars similiarly placarded were placed in another through freight train at West Oakland, Calif., in positions ninth and tenth, respectively, from the rear-end caboose. Such placements were in violation of section 589 (g) of the regulations which provides that cars placarded "explosives" shall not be placed nearer than the sixteenth car from the engine nor nearer that the eleventh car from the rear-end caboose, when the length of the train will permit.

Original Crosser Bill Passed by the House

(*Continued from page 65*)

estimated at $20,000,000,000 per year, subtracted from current earnings and devoted to government social security." The A. A. R. went on to indicate its agreement with the warning voiced by Representative Lea in the course of debate on the bill, i. e., that such a burden "would break down the economy of the country upon which our system of freedom of enterprise and opportunity rests." The other six "major objections" to the bill were listed by the A. A. R. as follows:

1. It greatly widens the gap between the benefits paid to railroad workers under the railroad retirement and unemployment insurance systems, and to other workers under the general Social Security Law. Present inequalities in favor of railroad workers will be increased.

2. It increases the cost to the railroads of railroad retirement and unemployment insurance for railroad workers by approximately $100,000,000 a year. This added cost, in the long run, must be borne by users of transportation, including workers who are under the much less liberal general Social Security Law, and who thus will have to bear the costs of benefits which they do not themselves enjoy.

3. This increase of about $100,000,000 a year, amounting to 2¼ per cent of the pay roll, is for the benefit of workers who have just received an increase of 18½ cents an hour in wages, and whose level of wages has gone up since the beginning of the war by more than 50 per cent.

4. The bill provides for payment of sick and accident benefits to a wide range of persons, some of whom have only incidental connection with the railroad business, and all of whom will receive these benefits regardless of whether the disability is caused by, or in any way related to, their employment or occupations. In no other social security law is there such a provision for benefits for sickness or accident not due to the employment, and which might, in fact, even be due to the employee's own misconduct, to be paid for solely by the employer.

5. Total taxes on railroad payrolls provided in the bill amount to 15¾ per cent, of which 6¼ per cent are to be paid by the employee and 9¼ per cent by the employing railroad.

6. And even this tax, the committee finds, will be insufficient to support the benefits provided in the bill. Actuarial studies made for the committee indicate that the benefits proposed would require a tax of almost one-fifth of the pay roll to be diverted for government-administered social security for railroad workers.

The remainder of the A. A. R. memorandum outlined briefly the principal differences between the bill and the committee substitute which was rejected. Also it listed the Lea amendments and the votes by which they were tentatively adopted when the House sat as a "committee of the whole." As noted above there was no roll call on any of these actions where the favorable votes ranged from 105 to 72 and the opposition votes from 66 to 43—no amendment attaining its temporary adoption with less than 25 votes to spare.

Up to the Senate—The bill is now before the Senate committee on interstate commerce, with Senate Majority Leader Barkley, Democrat of Kentucky, reported to have agreed to promote prompt committee consideration and personally to handle it on the Senate floor. Chairman Wheeler of the committee is back home in Montana where he is seeking renomination in a Democratic primary scheduled for July 16, thus leaving Mr. Barkley in charge of committee affairs as its ranking majority member.

Johnston, Tobey Rap Bulwinkle Bill in Minority Report

Two members of the Senate committee on interstate commerce—Senators Johnston, Democrat of South Carolina, and Tobey, Republican of New Hampshire—have filed their "minority views" as Part II of that committee's recent report on its amended version of H.R. 2536, the House-approved Bulwinkle bill to stay the operation of anti-trust laws with respect to carrier rate-making procedures and other point action arrangements approved by the Interstate Commerce Commission. The Senate committee's favorable report on the bill was noted in the *Railway Age* of June 29, page 1279.

The dissenting members were sharply critical of the bill's provisions, declaring that its enactment would "cut the anti-trust laws from the heart of our economy — the transportation industry." They added that "such legislation would be an opening wedge in entirely destroying the anti-trust laws, designed to guard and preserve the American system of free enterprise," and that it would "permit the legalization of private controls over the nation's economy not only by transportation combination, but, under the broad terms of the bill, by industrial and financial combines working in alliance with combinations in the transportation industry."

"The sole purpose of this bill is to remove the legal restraints against monopoly inherent in militant enforcement of the anti-trust laws," the dissenters continued. "Yet, while the bill would insulate the transportation monopoly and its allies from the courts . . . and reduce the attorney general to the status of a private complainant before the Interstate Commerce Commission . . . it would provide no adequate regulatory safeguards, if they be possible, even to insure compliance with agreements approved by the commission."

They further contended that under provisions of the bill the commission "may merely prescribe additional admonitions for future conduct in matters complained of," and neither the I. C. C. nor any other government agency would have the power to impose any penalty for past offenses.

Waiver of U. S. Rights and Claims of Control Period

Conditions under which the government will waive all claims and rights which it may have to an accounting with respect to the operation of the railroads during the recent strike period when they were under federal control were set forth by Director J. Monroe Johnson of the Office of Defense Transportation in a July 3 amendment to his May 26 notice and order that terminated government possession. The amendment inserts into the termination notice and order a new paragraph reading as follows:

1a. *Waiver of claims and rights of the United States.* All claims and rights which the United States may have to an accounting with respect to the operation of the carriers during the period of government possession and control * * * are hereby waived and released in respect of each carrier the possession and control of whose properties were taken * * *, conditioned upon the execution and delivery by the carrier to the United States of an instrument in the form approved by the director of the Office of Defense Transportation, or his delegates, (a) indemnifying and saving harmless the United States, its officers, agents, and employees against liability to third parties arising out of or in connection with operations during the period of government possession and control * * *, (b) assuming, upon the request of the attorney general of the United States, the defense at its own cost and expense of any action against the United States, its officers, agents, and employees arising out of or in connection with said operations, and (c) releasing any and all claims by or on behalf of the carrier against the United States, its officers, agents, and employees based upon Executive Order 9727 or any action or omission pursuant thereto. The right of the United States to such an accounting is hereby expressly reserved as to any carrier which fails to execute and deliver such instrument of indemnification and release or which otherwise asserts or reserves any claim against the United States by reason of any action or omission pursuant to said executive order.

Head-End Collision Caused by Failure to Observe Signals

Failure to operate one of the trains in accordance with interlocking signal indications caused April 21's head-end collision between two first-class passenger trains on the New York, New Haven & Hartford at Readville, Mass. where three employees were killed and 461 passengers, two railway-mail clerks and 15 employees were injured, according to the report of an Interstate Commerce Commission investigation under the supervision of Commissioner Patterson.

The accident occurred near the convergence of a single-track line of the road's Boston division and a three-track line of the Providence division, and resulted from a westbound train on the latter running by a stop signal and off its route onto the single-track line where it was struck by an eastbound train which was proceeding, in accordance with the interlocking's line-up, to move through a switch off the single-

track line and thence over a crossover from the westward to an eastward track of the three-track line.

On the single-track line, trains are operated by timetable, train order and an automatic block-signal system; and on the three-track line trains moving with the current of traffic are operated by signal indications. Semi-automatic signals govern movements from the single-track line to the three-track line. On that stretch of the latter's westward track over which the approach-locking circuit extends there are two automatic signals and a semi-automatic home signal (96). All of the signals involved are continuously lighted.

The interlocking controls are at Signal Station 181, located 348 ft. west of the connection (switch 74) of the single-track line with the three-track line. As noted above, the interlocking was lined for the movement off the single-track line at the time of the accident—10:15 p. m. on April 21 when the weather was clear. The train making this move was eastbound No. 134, en route from Putnam, Conn., to Boston, Mass., its consist being the locomotive, a baggage car and five coaches. The train had passed a "medium clear" signal which authorized it to proceed through switch 74 and the crossover to the middle track of the three-track line; and it was moving at an estimated speed of 25 m. p. h. (30 m. p. h. being the limit) when it collided with train No. 535.

The latter, en route from Boston to Providence, R. I., consisted of a locomotive, one coach, two baggage cars and six coaches, in the order named. This train left Back Bay, Boston, at 10:04 p. m., passed signal 96 which displayed stop, ran through the west switch of the crossover, entered the single-track line at switch 74 and stopped 109 ft. west of that switch. There it was struck by No. 134.

The locomotive of No. 535 was derailed but remained upright, its front end "badly damaged." The cab of No. 134's locomotive was demolished and the tender "badly damaged." Also, its first car (the baggage car of steel-underframe construction) was "demolished."

The investigation disclosed that, at about 10 p. m., the leverman at Signal Station 181 placed the controlling levers in position for home signal 96, governing No. 535's movement, to display stop and the approach signal (5,084 ft. farther east) to display proceed-preparing-to-stop-at-next-signal. According to the report, the leverman said that, as No. 134 was running about 15 min. late and No. 535 was on time, he was not certain whcih train would reach the interlocking first, and at that time he did not line any route through the interlocking. The approach of No. 134 was the first to be indicated on the track diagram, and about 10:14 p. m. he lined the crossover and switch 74 so that No. 134 could proceed from the single-track line to the three-track line's eastward track. Then he adjusted signals on the single-track line accordingly.

The tape of the speed recorder on No. 535's locomotive indicated a speed of 76 m. p. h. as that train was approaching Readville. The engineman said that their first sighting of the approach signal indicated a clear board. The engineer then went to the left side of the cab to assist the fireman in the manipulation of the injector, since the feedwater pump was not supplying the boiler with sufficient feedwater. As the train got close to the approach signal, the fireman warned that its indication had changed from proceed to proceed-preparing-to-stop-at-the-next-signal.

The engineer said that he immediately returned to the right seat-box and closed the throttle and made a 20-lb. break-pipe reduction. Soon afterward, he said, he placed the brake valve in service position, which resulted in a continuous break-pipe reduction. In his opinion these reductions were sufficient to stop his train short of home signal 96. When the engine was about 2,000 ft. east of that signal, he observed the stop indication and, "as the speed was not being properly controlled," he placed the brake valve in emergency position and the reverse lever in position for backward motion. However, the train passed signal 96, and stopped on the single-track line with the front of the engine at a point 590 ft. west of the signal, where it was struck immediately afterward by No. 134.

Considering the speed of No. 535 as it moved over the section of track embracing the approach-locking circuit and the fact that the operation of the time release required 2½ min., the report concluded that the route could not have been lined first for No. 535 and then for No. 134—tests after the accident having shown that the interlocking functioned properly. In one such test a train similar to No. 535 was run past the approach signal at 71 m. p. h., the speed at which No. 535's engineer said his train had passed that signal. Immediately after the test train's locomotive had passed the signal, the engineer closed the throttle to drifting position, made a 20-lb. brake-pipe reduction and placed the brake valve in lap position. As soon as the brake-pipe exhaust ceased, the engineer placed the brake valve in service position. where it remained until the train stopped at a point 260 ft. short of home signal 96 and 850 feet short of the collision point.

"The engineer of No. 535," as the report put it, "may have been confused since it appears that the brake application made on the night of the accident was started at a point considerably west of [approach] signal D-97."

Would Limit T. & P. Trucking to Substitute Service

Making a proposed report on 16 reopened proceedings involving trucking certificates held by the Texas & Pacific Motor Transport Company, subsidiary of the Texas & Pacific, Examiners David Waters and Harold P. Boss have recommended that the Interstate Commerce Commission modify the certificates so that each shall include all five conditions which the commission has been imposing to insure that highway freight operations of railroads remain auxiliary to rail service. The proposed report is in No. MC-50544, and the effect of commission adoption of the examiners' recommendations would be to drive Transport out of the all-motor freight business which it has been conducting on some routes.

Five Conditions — While there have been variations, the five conditions which the commission has been imposing in order to tie railroad truck operations to the rails are generally as follows: Condition 1 specfically limits the character of service which may be performed to that which is auxiliary to, or supplemental of, rail service; condition 2 stipulates that a railroad trucking operation may not serve any point not a station on the rail line; condition 3 in one form imposes the prior-or-subsequent-haul-by-rail requirement and in another form it sets up "key points" between which truck service is prohibited; condition 4 requires that all contractual relations between railroads and their trucking agencies be reported to the commission; and condition 5 reserves to the commission the right to impose further conditions or limitations.

The examiners recalled that the title proceeding and eight of the related proceedings in the present case have been the subject of a prior report by the commission's Division 5 which "defined certain operating rights under certificates issued to Transport, authorizing the conduct of certain operations in interstate or foreign commerce, and admonished it to correct its practices within a reasonable time." Thereafter, Transport filed a petition for reconsideration and oral argument, for modification of the commission's tariff regulations, or for further hearing; and the commission's response was the reopening of all proceedings now under consideration for further hearing "solely to determine what. if any, changes should be made in the conditions" contained in the 16 certificates. Subsequently, Transport filed a petition for cancellation of the further hearing, that petition having been denied by the commission in an order dated August 30, 1944.

At the further hearing, it developed that Transport desired to continue its present operations without change, and no opposition to this was expressed by any of the interested parties. However, the hearing examiner (Mr. Waters) overruled a motion to dismiss the proceedings without the introduction of evidence, and proceeded to receive testimony "describing the present operations of Transport in order to bring the record up to date." It was thus brought out that Transport has been operating two kinds of services—trucking in substitution for train service of its parent railroad and the Texas-New Mexico, the Jefferson & Northwestern and the Texas & New Orleans, and a service wherein it transports traffic for the general public directly in its own name, called by the examiners "public service." Its operations extend over some 1,150 route miles.

Would Curtail Operations—The examiners found "no uniformity" with respect to conditions contained in Transport's interstate certificates issued by the commission—in general each certificate contains "at least two but not more than five conditions." All except five certificates contain condition 1, specifically limiting the trucking service to that which is auxiliary to rail service; and it is under these five certificates that Transport is now rendering all-motor services, or "public service," as the examiners call it. As noted above, their recommendation that all certificates be amended to include all five conditions would drive Transport out of this business.

The examiners hold that commission acceptance of their recommendations for amending the certificates at this time would

be in order in view of the fact that all of the certificates contain condition 5, reserving to the commission the power to impose "such further specific conditions or limitations as may be found necessary in order to restrict Transport's operations to service which is auxiliary to or supplemental of, rail service." Among the certificates under which the all-motor services have been conducted are three acquired by purchase from sellers who formerly operated the routes as independent truckers; but the examiners would make no exceptions with respect to them. In this connection the proposed report includes citations to support its assertion that "the operations which Transport was authorized to purchase were 'those which are auxiliary or supplemental to train service.' "

Condition 2 is in all of the certificates except two, condition 4 is in all except six, and condition 3, in one form or another, "has application at certain of the points Transport is authorized to serve, but has no application at other points."

"In suggesting the form of the conditions which they think the commission should use in applying them uniformly to all of Transport's certificates, the examiners adopt Transport's suggestion as to one form of condition 3, as follows: "3A. No shipment originating at or destined to points east of Big Springs, Tex., shall be transported by Transport to or from points west of Big Spring unless the movement east shall be performed by the rail service of the railways into or out of Big Spring." However, they would add a condition 3B as follows: "No shipments shall be transported by Transport as a common carrier by motor vehicle between New Orleans, La., and Addis, La., nor between Shreveport, La., and Dallas, Tex., nor from Dallas, Tex., Texarkana, Tex.-Ark., Marshall and Longview, Tex., nor from Fort Worth, Tex., to Longview, Tex., nor between any of the following points, or through, or to or from more than one of said points: New Orleans, Alexandria, and Shreveport, La., Texarkana, Ark.-Tex., and Fort Worth, Abilene, and El Paso, Tex."

Diverse Exceptions — The examiners also noted that some of Transport's certificates authorize it to carry general commodities with no exceptions, while others authorize carriage of general commodities with certain exceptions, the exceptions being generally different in each certificate. In this connection the proposed report suggests that Transport give consideration to the question of applying for amendments to its certificates so that the authority to transport general commodities will be the same in each certificate. The examiners prefer that approach because the present diversity would make it difficult for the commission to issue an amended certificate embracing the authority contained in all the certificates Transport now holds. "It may be observed," they add, "that insofar as Transport is authorized to render only substituted service, it should be granted authority as broad, from a commodity standpoint, as the railway's less-than-carload rail service."

The proposed report also dealt with three other reopened proceedings involving grants of temporary authority held by Transport Pointing out that these temporary authorities were to have expired June 30, unless otherwise ordered, the examiners recommended a commission finding that it was unnecessary to prescribe any changes in conditions that were originally imposed with respect to them.

Car Service Order

The Interstate Commerce Commission has issued Service Order No. 541, prohibiting railroads from accepting for transportation or moving "any railroad freight car or refrigerator car which is appropriated without being ordered, which car is tendered to be forwarded to another point to be stopped off to complete loading thereof, unless or until the shipper or consignee of the appropriated car certifies on the bill of lading that the lading loaded in the car at the first loading point equals or exceeds 25 per cent of the total lading to be loaded in the car when completely loaded at all points."

The order, which applies to intrastate and foreign commerce as well as interstate commerce, became effective July 8 and will expire November 15, unless otherwise modified. The commission found its issuance necessary because it appeared that shippers were appropriating cars "and shipping them almost empty to other points to complete loading with the actual lading." The provisions of the order were made subject to any special or general permits issued Director V. C. Clinger of the commission's Bureau of Service.

Construction

LOUISVILLE & NASHVILLE.— This road has applied to the Interstate Commerce Commission for authority to construct a 16.7-mile extension to a branch line from a point near Duo, Ky., to a point near Deane.

PERE MARQUETTE. — *Trackage Rights.* — Division 4 of the Interstate Commerce Commission has authorized this road to acquire trackage rights over the Grand Rapids & Indiana, of which the Pennsylvania is lessee, between Fulton street, near Union Depot, Grand Rapids, Mich., and the point of connection with a cross-over track to be constructed at Fuller Block station, a distance of approximately 2.5 miles. In approving the transaction, the commission, in accordance with the uniform policy announced in the Chicago & North Western case, as reported in *Railway Age*, June 15, page 1201, imposed employee-protection conditions as set forth in the Interstate Commerce Act's section 5 (2). At the same time, the commission dismissed for want of jurisdiction the accompanying application of the Alleghany Corporation for authority to acquire the trackage rights, for use by the P. M.

READING.—This road has awarded contracts to the Bethlehem Steel Company, Philadelphia, Pa., and the Empire Construction Company, Baltimore, Md., for the construction of bridge number 1/45 at Reading, Pa. The estimated cost of the project is $880,000. The bids for this project were reported in the *Railway Age* for April 27, page 893, and an order for the steel placed with Bethlehem was announced in the issue for June 8, page 1154.

Equipment and Supplies

Car Deliveries Lag

Reflecting a need for priorities assistance in obtaining the vital materials to alleviate the growing shortage of railway freight cars, the delivery of freight cars by car builders suffered a decline in June as compared with May, according to the American Railway Car Institute.

The lack of materials resulted in curtailment of production and shut-downs in some instances, the institute reported. Only 2,094 freight cars were delivered in June compared with the total of 2,816 cars delivered in May. Both totals are far below the capacity of the industry, the institute said.

Domestic car orders in June totaled 3,064 cars, a very small increase over the May orders of 3,025. Figures for the first six months showed a total of 15,162 domestic car orders delivered in that period, compared to 33,150 cars on order as of July 1.

The report of the institute, a statistical and research organization, noted an increase in the orders for passenger cars, 176 in June compared with 39 placed in May.

LOCOMOTIVES

The NATIONAL RAILWAYS OF MEXICO has ordered 10 steam locomotives of the 2-8-0 type from the Baldwin Locomotive Works.

CONSEJO ADM. DE LOS FERRO CARRIL NATIONALES (Colombia) has ordered 6 freight locomotives of the 4-8-2 type from the Baldwin Locomotive Works.

The MISSOURI-KANSAS-TEXAS has ordered 6 1,000-hp. Diesel-electric switching locomotives from the Baldwin Locomotive Works.

The AMERICAN ROLLING MILL COMPANY has ordered 1 660-hp. Diesel-electric switching locomotive from the Baldwin Locomotive Works.

The CROWS NEST PASS COAL COMPANY, LTD. (Canada) has ordered 1 660-hp. Diesel-electric switching locomotive from the Baldwin Locomotive Works.

The FINNISH STATE RAILWAYS have ordered 20 freight locomotives of the 2-10-0 type. The order was divided equally between the Baldwin Locomotive Works and the American Locomotive Company. This is part of the equipment for which an inquiry was reported in the *Railway Age* of May 18, page 1032.

FREIGHT CARS

The UNION TANK LINES have ordered 600 50-ton tank cars which will be built to Interstate Commerce Commission specifications for the transportation of liquefied petroleum gas. The American Car & Foundry Company will build 500 of the cars and the remaining 100 will be built by the General American Transportation Corporation. The inquiry for this equipment was reported in the *Railway Age* for June 1, page 1120.

Supply Trade

American Locomotive Company to Redeem Preferred Stock

Stockholders of the American Locomotive Company, at a special meeting on August 6, wil be asked to approve a proposal to redeem at $115 a share the $20,000,000 of outstanding 7 per cent preferred stock through the issuance of $10,000,000 of prior preferred and $10,000,000 of convertible second preferred stocks carrying an overall dividend rate of not more than 4¼ per cent. This action, the company said, would immediately reduce dividend requirements from $1,400,000 to not over $850,000 and the way would be paved for a further reduction to not more than $425,000 through conversion of the junior preferred shares.

In a letter to stockholders, D. W. Fraser, chairman of the board of directors, proposed that the conversion price of the convertible second preferred be "within 10 per cent, either way, of $50 per share of common stock; in other words, each $100 par value shares of convertible second preferred stock will be convertible into not more than two and two-ninths shares of common stock, or a total of not more than 222,223 shares of common stock." The company proposes to provide a sinking fund to retire annually 2 per cent of the original number of prior preferred shares outstanding.

Don C. Wilson, whose retirement as vice-president, railway sales, Edison storage battery division, **Thomas A. Edison, Inc.,** was announced in *Railway Age* of July 6, page 29, was born in Crete, Neb., in 1886. He was graduated in electrical engineering from the Nebraska State university in 1907 and began his career in 1908 as a foreman in charge of electrical construction with the Union Pacific. From 1911 to 1916, Mr. Wilson served as electrical engineer with the Union Pacific. He worked

Don C. Wilson

in that capacity for the Central of Georgia from 1917 to 1918, and joined the Edison Storage Battery Company in 1919 as manager, railway department, which position he held until 1925. He was general sales manager from 1926 to 1928. In 1929, Mr. Wilson was elected president of the D. C. Wilson Company, New York, serving until 1933. He was assistant to the vice-president, in charge of railway sales, Edison storage battery division, Thomas A. Edison, Inc., from 1934 to 1940, when he was elected vice-president, railway sales.

N. H. Critton, formerly district manager in Newark, N. J., for the **Monarch Machine Tool Company,** has been appointed Eastern sales manager with headquarters in New York. Mr. Critton also will supervise an export sales staff now being organized. **F. J. Griffis** of the Eastern sales staff will succeed Mr. Critton as district manager in Newark.

Roy L. Salter has been appointed vice-president of the Southern wheel division of the **American Brake Shoe Company.** Mr. Salter is in charge of operations of the nine Southern wheel plants in the United States and is responsible for the production of chilled tread car wheels. A graduate of the Alabama Polytechnic Institute, he first joined the Southern wheel division in 1924 as assistant foreman of the Savannah, Ga., plant and since then has worked in a supervisory capacity at plants

Roy L. Salter

in Portsmouth, Va., and Sayre, Pa. He took a leave of absence between 1937 and 1942 to serve with the Association of Manufacturers of Chilled Tread Car Wheels. He returned to Southern wheel as general superintendent and was made works manager of the division in 1944.

Dri-Steam Products, Inc., has changed its name to the **Drico Industrial Corporation.** The address, 29 Broadway, New York 6, is unchanged.

William E. Gadd, formerly Eastern sales manager for the Rail Joint Company, Inc., has joined the **Taylor-Colquitt Company,** Spartanburg, S. C., as special representative to handle the promotion of the firm's vapor drying process.

William J. Bolte and **Samuel Markowitz** have been appointed assistant secretaries of the **American Locomotive Company. Alec C. Lawson** has been appointed assistant comptroller of the **Montreal Locomotive Works, Ltd.,** American Locomotive subsidiary, and **George Steele,** who recently retired as assistant secretary of the parent firm, was appointed assistant secretary.

The **Weston Electrical Instrument Corporation** is constructing a large new engineering and administration building on the plant grounds at Newark, N. J. The three-story structure is to be T-shaped, of brick-faced reinforced concrete and will have 78,620 square feet of floor area.

Frank K. McDanel, whose election as president of the **American Bridge Company** and the **Virginia Bridge Company,**

Frank K. McDanel

subsidiaries of the United States Steel Corporation, was announced in last week's *Railway Age,* began work as a youth in the Ambridge, Pa., plant of American Bridge where he learned to lay out shapes for bridges and buildings. Rising through the ranks, Mr. McDanel was appointed general superintendent of the shops in 1923, in which capacity he supervised the fabrication of steel for the Empire State Building, the San Francisco-Oakland Bay bridge, Radio City and many other skyscrapers and bridges. Elected vice-president and a director of American Bridge six years ago, he

Austin J. Paddock

was in charge of the company's manufacturing operations during the war.

Austin J. Paddock, whose election as vice-president in charge of American

Bridge's manufacturing operations to succeed Mr. McDanel also was announced, was manager of the Gary, Indiana, plant since 1941. A native of Detroit, Mich., he joined American Bridge in 1929 as a timekeeper with the erecting department in California, was appointed assistant to the manager of the Elmira, N. Y., plant in 1934 and three

William A. Thiel

years later was made manager of that operation. **William A. Thiel**, master mechanic during the last ten years at the Gary plant, succeeds Mr. Paddock as manager of the plant.

Walter L. Turner, Jr., has been appointed associate editor of *Railway Age*, and Railway Engineering and Maintenance, with headquarters at Chicago. Mr. Turner was born at Bluefield, W. Va., on January 27, 1913, and was graduated from Virginia Polytechnic Institute in 1935 with the degree B. S. in civil engineering. He entered railroad service on April 23, 1936, as a rodman in the construction department of the central region of the Pennsylvania, and on March 16, 1937, he became an engineer apprentice in the maintenance of way department at Buffalo, N. Y. On January 1, 1938, he was made an assistant in the engineering corps at Wooster, Ohio. On

Walter L. Turner, Jr.

June 1, 1938, he joined the Pennsylvania Turnpike Commission as a party chief, and served in that capacity until February 1, 1939, when he returned to the Pennsylvania as an assistant in the engineering corps, at Alliance, Ohio. On November 16, 1939, he was transferred to Niles, Ohio, and on June 1, 1940, he was transferred to Pittsburgh, Pa. Mr. Turner was appointed assistant supervisor, at Lock Haven, Pa., on October 22, 1940, and served there until March 28, 1941, when he entered the armed forces, from which he was discharged with the rank of major. On December 1, 1945, he returned to the Pennsylvania as assistant supervisor at Freedom, Pa., where he remained until April 23, 1946, when he resigned to join the staff of the Simmons-Boardman Publishing Corporation.

William E. Knox has been elected president and general manager of the **Westinghouse Electric International Company** to succeed **John W. White,** who has resigned to become director general of Industria Electrica de Mexico, one of Mexico's largest privately owned enterprises.

Richard A. Sweet has been promoted to district sales manager, Cleveland, Ohio, for the **Aluminum Company of America** to succeed **Edward L. Cheyney,** who has relinquished his direct responsibilities in

Richard A. Sweet

that position. Mr. Cheyney will retire from the firm on October 1, after 41 years of service. A native of Erie, Pa., Mr. Sweet began his career with the Aluminum Company at the New Kensington (Pa.) works in 1927. Transferred to the Cleveland works for a brief period in 1928, he was then assigned to general sales at the New York district office. He was assistant manager of the New York office before being moved to Cleveland as assistant district manager in January, 1945.

The **National Tube Company,** a subsidiary of the United States Steel Corporation, has announced an extensive program of improved new facilities in the plants at Lorain, Ohio, and Gary, Indiana. The improvements, the announcement said, are designed to enable the company better to meet the estimated future demands for steel pipe.

A building program to meet the needs of the rapidly expanding requirements of the **Electro-Motive Division** of the General Motors Corporation, La Grange, Ill., has been announced. Ground has been broken for an engineering and experimental building and procurement has begun for the materials and equipment for new sewage treatment and steam plants. All engineering department effort will be combined under one roof in the new building, which will be a one- and two-story structure, 145-ft. by 388-ft., with facilities for experimental locomotive assembly.

J. B. Trotman, for the past six years general sales manager of the Blackmer Pump Company, has been appointed head of the new **Bowser, Inc.,** industrial pump division, with headquarters in Fort Wayne, Indiana. A complete line of pumps will be developed for general industrial and petroleum product applications, the announcement said.

The **Carboloy Company,** of Detroit, Mich., has appointed the **Carey-McFall Company,** 2156 E. Dauphin street, Philadelphia 25, Pa., as an authorized distributor to take care of the rapidly expanding demand for hard metal products in metropolitan Philadelphia and the adjacent territory. Carboloy standard tools, standard blanks, wheel dressers and masonry drills will be carried in stock. In addition, Carey-McFall possesses facilities for fabricating special Carboloy cemented carbide tools and dies and clamped-on Carboloy tools. A regrinding service is also maintained for carbide users. **E. M. Twelves,** sales manager for Carey-McFall, will head the new carbide operation.

Abandonments

DENVER & RIO GRANDE WESTERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon that portion of its narrow-gage Baldwin branch between Castleton, Colo., and Baldwin, 2.1 miles.

MISSISSIPPI CENTRAL.—This road has applied to the Interstate Commerce Commission for authority to abandon that portion of its line between Hattiesburg, Miss., and Camp Shelby, 7 miles.

PERE MARQUETTE.—Acting upon further consideration of the record and upon petition of the village of Elk Rapids, Mich., and "various other protestants," the Interstate Commerce Commission has reopened, for reconsideration and oral argument before the full commission, the Finance Docket No. 14671 proceeding wherein Division 4's prior report authorized this road to abandon its 9.01-mile branch from Williamsburg, Mich., to Elk Rapids. No date has yet been set for the oral argument, but the commission's reopening order postpones indefinitely the effective date of the certificate issued by Division 4. The latter's prior report was noted in the *Railway Age* of February 16, page 384.

UNION PACIFIC.—This road has applied to the Interstate Commerce Commission for authority to abandon operation of a line, which the Oregon Short Line also seeks permission to abandon, from Stoddard, Idaho, to Murphy, 12.9 miles.

Financial

BEAUMONT, SOUR LAKE & WESTERN.—*Lease Amendment.*—Division 4 of the Interstate Commerce Commission has authorized modifications of this road's lease of the properties of the Houston North Shore, in order that amounts charged under the commission's depreciation accounting requirements shall qualify under Bureau of Internal Revenue regulations as allowable deductions for income tax purposes. The modifications are expected to result in an annual tax saving of approximately $12,000 to the lessee, which is controlled by the Missouri Pacific. Although it did not appear that any employee would be adversely affected, the commission followed the uniform policy announced in the Chicago & North Western case, as reported in *Railway Age,* June 15, page 1201, and imposed employee-protection provisions as set out in section 5 (*2*) of the Interstate Commerce Act.

BOWDON.—*Stock.*—Division 4 of the Interstate Commerce Commission has authorized the Bowdon Railroad & Transportation Company to issue 100 shares of capital stock with par value of $100 a share. Proceeds of the issue will be applied toward the purchase of the Bowdon Railway Company, which the applicant acquired at a receiver's sale, and also for working capital.

CATON & LOUDON.—*Acquisition and Stock Issue.*—Division 4 of the Interstate Commerce Commission has approved this company's purchase of the former Catonsville Short Line's railroad properties which are operated by the Pennsylvania under lease, the division at the same time making another report authorizing the same applicant, which was organized in September, 1945, to issue $10,000 of capital stock consisting of 200 shares of $50 par value each. Being unaware that commission approval was required, the applicant consummated the purchase before filing the application, borrowing the purchase price of $21,000 and $4,000 for working capital from its president, David W. Chertkof, and obtaining the deed from the C. S. L. receiver on October 31, 1945. In approving the transaction, the commission attached labor-protection provisions as set forth in the Interstate Commerce Act's section 5(*2*), thus following the uniform policy recently announced.

The report approving the proposed stock issue imposes a condition requiring that a note evidencing the $25,000 debt to Mr. Chertkof, which note was issued without commission authorization, be canceled and the liability carried in an open account. With respect to the proposed stock, the application sought authority to issue nominally the 200 shares (10 per cent of the 2,000 shares provided for in the applicant's charter) which had been subscribed for and 10 per cent of the subscription price paid. This set-up was arranged to qualify the applicant as a corporation entitled to do business under Maryland law—that. rather than the obtaining of funds, being the purpose of the issue. The commission concluded that the stock had been sold, subject to its approval, and that its authorization should thus be for actual rather than nominal issue of the 200 shares. It made its favorable finding on that basis, stipulating that the subscription must be paid in full before delivery of the certificates and the proceeds applied to capital purposes as the need may require.

CENTRAL OF NEW JERSEY.—*Lease of Lines in Pennsylvania.*—Subject to further orders, Division 4 of the Interstate Commerce Commission has authorized the Central of Pennsylvania, which the Jersey Central controls through ownership of stock, to acquire the property, other than cars and locomotives, of the parent road located in Pennsylvania, and to lease and operate the lines heretofore operated in Pennsylvania by the Jersey Central, thus carrying a step further the program for segregation of operations outlined in *Railway Age,* March 3, 1945, page 436, the basic purpose of which is to meet a situation arising from New Jersey tax laws. In approving the transaction, which was opposed by the State of New Jersey and Jersey City, the commission attached labor-protection provisions as set forth in section 5 (*2*) of the Interstate Commerce Act, thus following its uniform policy in that respect. The commission said that when a plan of reorganization or another plan for the disposition of C. of N. J. properties was before it, consideration again would be given to the transaction.

According to the commission, which made the order effective 40 days from its date, June 26, the reduction in the annual New Jersey franchise tax would have been $235,750, $1,126,236, $2,104,324 and $1,002,710 respectively, had the lines in Pennsylvania been operated separately from 1941 to 1944, inclusive. It added that approval of the transaction was given by the federal court having jurisdiction over the reorganization of the C. of N. J. and that obligations assumed by a corporation under its charter to provide intrastate service are subordinate to the performance by it of its federal duty, which it also assumed, "efficiently to render transportation services in interstate commerce." The commission also noted a United States Supreme Court decision to the effect that taxpayers might decrease their tax liability if the methods used were lawful.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $1,500,000 of 1⅜ per cent equipment-trust certificates, to be sold at 99.74 per cent of par and accrued dividends, the bid of the Central Hanover Bank & Trust Company, New York, which had been accepted subject to commission approval. The proceeds will be applied toward the payment of $1,990,170 for 700 50-ton all-steel hoppers to be purchased from the American Car & Foundry Company. The certificates will be dated July 1, and will mature in 10 equal annual installments of $150,000 starting July 1, 1947.

CHICAGO, BURLINGTON & QUINCY.—*Acquisition.*—This road has acquired from the North Kansas City Development Company sole possession of tracks serving 125 industries, it has been reported. The purchase price was $837,000.

DENVER & RIO GRANDE WESTERN.—*Annual Report.*—Operating revenues of this road in 1945 totaled $74,825,480, compared with $70,346,987 in the preceding year. Operating expenses were $60,578,976, compared with $49,777,177. Interest on the funded debt amounted to $5,636,203, compared with $5,652,308. The net deficit was $7,139,492, compared with net income of $2,505,572. Current assets at the end of the year were $52,619,951, compared with $39,070,123. Current liabilities were $26,280,011. Long term debt was $131,514,880, an increase of $2,156,542.

ILLINOIS CENTRAL. — *Refunding Plan Dropped.*—Acting in response to a letter received from this road the Interstate Commerce Commission, Division 4, has vacated its June 18 order which had authorized issuance of $49,443,000 of Series A 3¼ per cent, first and refunding mortgage, 30-year bonds to be exchanged in connection with the refunding 14 outstanding issues of prior-lien bonds of the I. C. and its subsidiary, the Chicago, St. Louis & New Orleans. In approving this issue of Series A's, the June 18 report deferred action on that part of the I. C. proposal which sought authority to issue 40-year Series B's in the amount of $35,000,000 (see *Railway Age* of June 29, page 1285). The commission's vacating order set forth that the I. C. letter had stated that the authority granted to issue the A's would not be exercised, and requested that that part of the application seeking authority to issue the B's be withdrawn.

LITCHFIELD & MADISON.—*Control.*—Division 4 of the Interstate Commerce Commission has authorized Charles Allen, Jr., a member of the New York investment banking firm of Allen & Company, to acquire control of this road through purchase of 14,000 shares (70 per cent) of the common stock from Jacob L. Holtzmann at $48 per share, a total of $672,000. Adhering to its recently-announced policy in that connection, the commission imposed labor-protection conditions as set forth in the Interstate Commerce Act's section 5(2).

MEXICO NORTH-WESTERN.—*Ownership.*—This 472-mile road has been sold by its British owners to a group of Mexican and American capitalists for $3,250,000, and will be operated by a new company known as Ferrocarril Nor-Oeste de Mexico, S. A. A rehabilitation program costing $700,000 is planned by the new owners.

NEW YORK CENTRAL.—*Reduction in Assessed Valuations.*—New York State Supreme Court Justice Charles B. McLaughlin has awarded this road reductions in assessed valuations of more than $12,000,000 over a period of six years on three properties it owns in the Grand Central Terminal zone, New York city.

PENNSYLVANIA.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized this road to acquire control, through ownership of capital stock, of the Jersey City Stock Yards, Inc. The commission also approved a cash sale by the latter to the Pennsylvania of a proposed issue of 500 shares of capital stock, at $100 a share, the proceeds of which will be used for working capital. At the same time, the commission authorized the Jersey City Stock Yards, Inc., to lease the Jersey City

Stock Yards Company properties used for the purpose of loading and unloading livestock. In approving the latter transaction, the commission attached labor-protection provisions as set forth in section 5 (2) of the Interstate Commerce Act, thus following its uniform policy in that respect.

TENNESSEE CENTRAL. — *R. F. C. Loan.* — Division 4 of the Interstate Commerce Commission has approved a $250,000 loan by this road from the Reconstruction Finance Corporation for a period ending not later than April 1, 1950. The funds will be used to replenish the applicant's working capital, which has been depleted by "prolonged strikes and the resultant decrease in earnings."

Average Prices Stocks and Bonds

	July 9	Last Week	Last Year
Average price of 20 representative railway stocks..	64.37	64.76	58.20
Average price of 20 representative railway bonds..	99.29	99.00	98.90

Dividends Declared

Augusta & Savannah. — $2.50, semi-annually, payable July 1 to holders of record June 17.

Northern.—$1.50, qarterly, payable July 31 to holders of record July 11.

Piedmont & Northern.—50¢, payable July 20 to holders of record July 5.

Pittsburgh, Cincinnati, Chicago & St. Louis.—$2.50, semi-annually, payable July 20 to holders of record July 10.

Railway Officers

EXECUTIVE

N. B. Marvin, whose promotion to assistant to the vice-president, traffic, of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of June 29, entered railway service in 1925 in the traffic department of the Union Pacific at San Francisco, Cal. He subsequently

N. B. Marvin

held various clerical positions until January, 1938, when he was advanced to freight traffic agent, with the same headquarters. On May 1, 1944, Mr. Marvin was appointed chief clerk of the service department, with headquarters at Omaha, the position he held at the time of his new appointment.

William D. Faucette has been appointed chairman of the Seaboard Air Line's Committee of Research and Planning succeeding **Lester L. Knight,** whose promotion is noted elsewhere in these pages. Mr. Faucette will continue in his present capacity as executive representative of the receivers. (A photograph and biographical sketch of Mr. Faucette was published in the *Railway Age* of July 1, 1944, page 63, following his appointment as executive representative.)

Earle B. Perry, whose appointment as assistant vice-president in charge of personnel of the New York, New Haven & Hartford at New Haven, Conn., was announced in the *Railway Age* of June 22, was born at Hartford, Conn., on December 9, 1888. Mr. Perry entered the service of the New Haven in May, 1902, as a bill clerk for the Central New England (now part of the New Haven) and in June, 1903, he became time clerk in the mechanical department at Hartford. In August, 1905, he was transferred to New London, Conn., and in February, 1908, to New Haven. Mr. Perry was appointed chief time clerk at Waterbury, Conn., in May, 1912, transfer-

Earle B. Perry

ring to New Haven in October, 1913, and in December, 1915, was appointed supervisor of wage schedules, continuing in that position until June, 1925, when he became assistant to general manager. On July 1, 1942, Mr. Perry was named manager of personnel, the position he was holding when he was recently promoted to assistant vice-president, personnel.

Hugh W. Stanley, whose election as chairman of the board of the Tennessee Central was reported in the *Railway Age* of June 29, was born in Petersburg, Va., on February 13, 1874. After a high school education, he entered railway service in 1890, as a telegraph operator on the Norfolk & Western. In 1895 he went with the Southern as chief clerk to the division superintendent at Knoxville, Tenn., and in 1897 he entered the employ of the Seaboard as secretary to the general superintendent, becoming chief clerk three years later. He was promoted to trainmaster in 1906 and to division superintendent in 1907. The following year he became superintendent of transportation, advancing to general superintendent of transportation in March, 1910. Mr. Stanley was promoted to assistant general manager in October, 1911, and to general manager in May, 1912. He entered the executive department in October, 1914, as assistant to the president, serving in that capacity until June, 1916, when he became assistant to the chairman of the

Hugh W. Stanley

Car Service Committee of the American Railroad Association (now the Car Service Division of the Association of American Railroads). Mr. Stanley was appointed receiver of the Tennessee Central in July, 1917, and five years later he became its president, holding that position until his recent promotion.

Francis E. Pennington, whose promotion to executive representative of the Missouri Pacific, with headquarters at Denver, Colo., was reported in the *Railway Age* of May 11, was born at Marvin, Tenn., on August 15, 1895, and received his higher education at three southern colleges. He entered railway service on February 20, 1916, as a ticket seller on the Southern at Bulls Gap, Tenn., subsequently holding various minor positions at different points on that road until June 1, 1922, when he went with the Missouri Pacific as a traveling passenger agent, with headquarters at

Francis E. Pennington

Birmingham, Ala. One year later Mr. Pennington was transferred to Memphis, Tenn., and in February, 1929, he was advanced to division passenger agent with the same headquarters. In the same year he was promoted to general agent at Washington, D. C., later serving in the same

capacity at Pittsburgh, Pa. On March 1, 1936, he was advanced to general freight agent, with headquarters at St. Louis, Mo., and in 1936 he was further advanced to general freight and passenger agent at Kansas City, Mo., the position he held at the time of his new appointment.

Rex T. Kearney, superintendent of the Tidewater Southern (part of the Western Pacific), at Modesto, Cal., has been elected president and general manager, with headquarters at San Francisco, Cal., succeeding **Harry A. Mitchell,** whose election as vice-president and general manager of the Western Pacific was reported in the *Railway Age* of May 18.

Dean F. Willey, whose appointment to assistant vice-president in charge of operation, maintenance and engineering of the New York, New Haven & Hartford at New Haven, Conn., was announced in the June 22 *Railway Age,* was born at Manchester, N. H., on August 5, 1896, and was graduated from the Massachusetts Institute of Technology in 1920. He entered railroad service with the New Haven in June, 1920, as assistant engineer, department of tests, and in April, 1923, was appointed general material supervisor. In October of the same year he became mechanical inspector and in November, 1923, was appointed foreman mechanical inspector at Boston, Mass., being

Dean F. Willey

promoted to acting general foreman in July, 1924. Mr. Willey became general foreman on November 1, 1924, and in September, 1925, he was appointed assistant to superintendent of shops at Readville, Mass., holding that position until May 16, 1930, when he returned to New Haven as special mechanical assistant. He served as mechanical superintendent from January, 1937, to May, 1941, when he was named general mechanical superintendent. He became assistant general manager in charge of engineering, maintenance and mechanical departments at New Haven in November, 1944, the post he held at the time of his recent promotion to assistant vice-president.

John Gerdes, senior member since 1940 of Gerdes & Montgomery, attorneys in New York, has been elected vice-president and general counsel of the Chicago, Rock Island & Pacific and chairman of that company's executive committee, to succeed **Marcus L. Bell,** who died on June 15, 1945. (A photograph and biographical sketch of Mr. Bell was published in these pages on June 30, 1945.)

Mr. Gerdes, who was born in New York on September 26, 1886, attended Berea college (B.Litt., 1907); New York university (M.A., 1918; LL.B., 1910; LL.M., 1911; J.D., 1912). He was admitted to the

Blackstone Studios, New York

John Gerdes

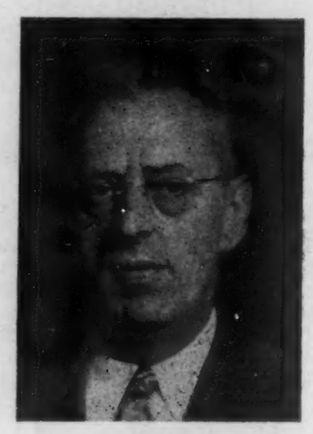
New York bar in 1909. Since 1922, Mr. Gerdes has been professor of law of corporate finance and corporate reorganization at New York university, in addition to acting as counsel for that institution. He is the author of "Gerdes on Corporate Reorganizations" published in three volumes in 1936. Mr. Gerdes serves also as vice-president, general counsel and director of the U. S. Life Insurance Company; treasurer and director, Equity Construction Company; and chairman, W. S. Tockwell Company. He is a member of the rules committee, Federal Court in New York; chairman of the committee on reorganizations, American Bar Association; chairman of the committee on life insurance, New York State Bar Association. Mr. Gerdes was a representative to the Second International Congress of Comparative Law, League of Nations, The Hague during the summer of 1937. He was secretary, New York State Committee of National Progressive Party from 1913 to 1916 and served as a president-elector (Republican) for New York in 1916. As vice-president and general counsel of the Rock Island, Mr. Gerdes will continue to maintain headquarters at his own offices, 1 Wall street, New York.

R. H. McGraw, assistant superintendent of the New York Central at Buffalo, N. Y., has been promoted to assistant to vice-president, with headquarters at Chicago.

Robert E. O'Grady, coal traffic manager of the Erie, at Cleveland, Ohio, has been promoted to assistant vice-president, with headquarters at Chicago succeeding **W. V. Kennedy,** who has retired. Mr. Kennedy was born in Chicago on December 30, 1879, and attended the Chicago Athenaeum college. He entered railway service on March 1, 1898, with the Chicago and Ohio River committee of the Central Freight Association and in 1903 he went with the Erie at Cleveland, later that year being promoted to chief clerk of the general freight department at Chicago. In 1911 he was transferred to New York as chief clerk to the assistant freight traffic manager, the coal traffic manager and the vice-president at that point. Mr. Kennedy was promoted to division freight agent at Rochester, N. Y., in 1917, and to general freight and passenger agent at Chicago in March, 1920. In 1927 his title was changed to general freight agent and in December, 1928, he was advanced to assistant freight traffic manager, with headquarters at Chicago, being promoted in June, 1939, to the position he held at the time of his retirement.

FINANCIAL, LEGAL AND ACCOUNTING

G. W. Oakley, whose appointment as auditor of disbursements of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of July 6, was born at Hawthorne, N. J. Mr. Oakley entered the service of the Erie in the timekeeping department at Jersey City, N. J., in 1911. During World War I he was furloughed by the Erie for service in the United States Army, and upon his return to the road in 1919 he was named assistant chief clerk in the Jersey City accounting bureau, shortly thereafter becoming chief clerk. In 1920 he was appointed division accountant at Port Jervis, N. Y., and the following year



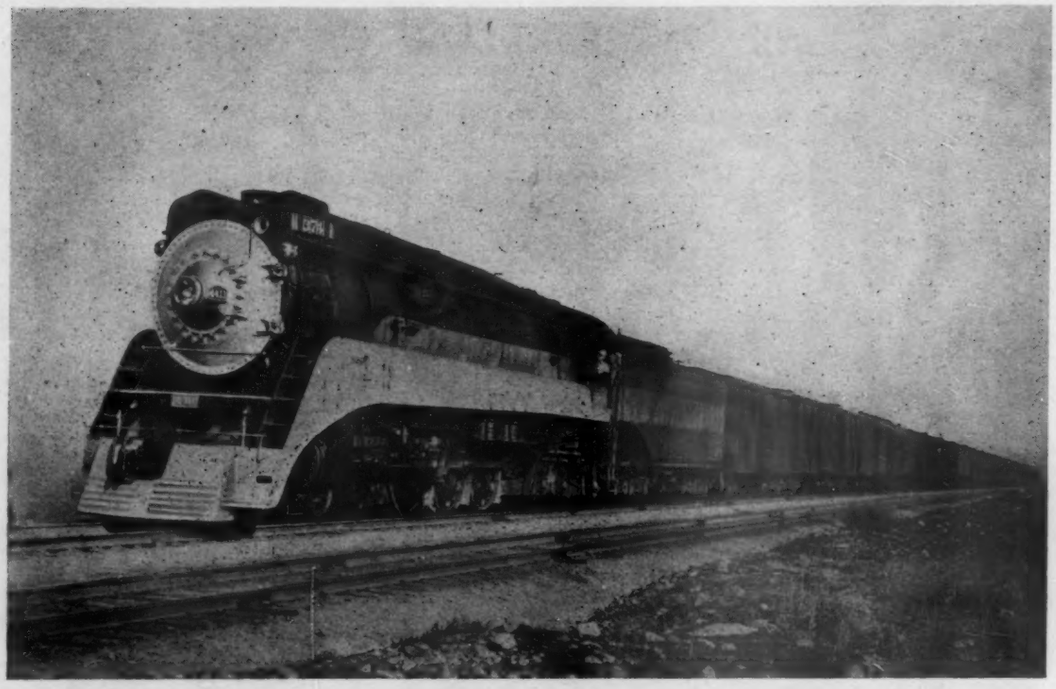
G. W. Oakley

was transferred to Jersey City, later in 1921 becoming chief clerk to the auditor of disbursements, and in 1933 chief clerk to the president. Subsequently, Mr. Oakley became general accountant in the comptroller's office and in 1944 was promoted to assistant auditor of revenues, the post he held at the time of his recent appointment as auditor of disbursements.

Harry F. Brahany, whose appointment as assistant comptroller of the Chesapeake & Ohio, with headquarters at Richmond, Va., was announced in the *Railway Age* of June 15, was born at Marshall, Ill., on February 5, 1891. Mr. Brahany entered railroad service as a clerk in the office of the master mechanic of the Texarkana & Fort Smith (now Kansas City Southern), at Texarkana, Tex., and subsequently held various clerical positions in the mechanical and accounting departments of the Wichita Falls & Northwestern (now Missouri-Kansas-Texas), and in the accounting department of the Texas & Pacific and the

News Department continued on next left-hand page

Southern Pacific
resumes...



OVERNIGHT SERVICE

with Lima 4-8-4 Locomotives

Suspended during the war, Southern Pacific's "Overnight" freight merchandise trains again are giving overnight service between San Francisco and Los Angeles, speeded by Lima 4-8-4 steam locomotives.

So fast is the 470 mile run that waybills have to be teletyped. Freight picked up in one city late in the afternoon is delivered to the consignee in the other city before the next noon.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

M-K-T of Texas at Dallas, Tex., the Louisiana & Arkansas at Texarkana, the M-K-T at St. Louis, Mo., and the Pere Marquette at Detroit, Mich. In 1917 he became a member of the railroad staff of Paterson, Teele & Dennis, certified public accountants of New York, and in 1918 he

Harry F. Brahany

returned to the Pere Marquette as special accountant, federal auditor's office. Returning to the M-K-T he was appointed valuation accountant for receiver at St. Louis in 1919, then, in March, 1920, returned again to the Pere Marquette as auditor capital expenditures and statistician in operating department, becoming auditor of disbursements of that road in 1923. He entered the service of the Chesapeake & Ohio in 1933 as auditor of disbursements and in 1937 was promoted to auditor for the C. & O. at Richmond, the position he held at the time of his recent promotion.

Oliver Megs Hepler, whose election as comptroller of the Chesapeake & Ohio, New York, Chicago & St. Louis and the Pere Marquette at Cleveland, Ohio, was announced in the *Railway Age* of June 8, was born in Surrey county, N. C., on April 22, 1887. He entered railroad service in September, 1907, as stenographer on the Chesa-

Oliver M. Hepler

peake & Ohio, serving in this capacity until 1911, when he became secretary to comptroller, becoming chief clerk to comptroller in 1917. Ten years later he was promoted to assistant to comptroller and in November, 1928, he was appointed assistant comptroller, the position he was holding at the time of his recent promotion. Mr. Hepler is a member of the Accounting Division, Association of American Railroads, and has served as chairman, Accounting Committee, handling unemployment compensation matters in the State of West Virginia.

Lester Lloyd Knight, chief, research, planning and budgetary control department of the Seaboard Air Line and chairman of the road's Committee on Research, Planning and Budgetary Control has been promoted to comptroller with headquarters at Portsmouth, Va. Mr. Knight was born on November 5, 1891, at Mascotte, Fla. He entered railroad service in June, 1909, as a clerk of the Tampa Northern (now Seaboard Air Line), thereafter serving successively, until August 1, 1912, as cashier, general bookkeeper, and chief clerk, becoming auditor of the S. A. L. on the latter date. On February 1, 1914, he went with the Macon, Dublin & Savannah as auditor at Macon, Ga., returning to the Seaboard in February, 1918, as assistant auditor disbursements at Portsmouth, and becoming auditor disbursements on October 1 of the same year. Mr. Knight was appointed

Lester Lloyd Knight

assistant general auditor in November, 1922, became general auditor in January, 1923, and was named general auditor for receivers of the Seaboard and affiliated companies at Portsmouth in December, 1930. He has been serving as chief of the research, planning and budgetary control department and as chairman of the Committee of Research, Planning and Budgetary Control since September, 1943, when the Seaboard created these bodies for the purpose of developing plans for overall improvement in operating and financial results. (An article relating the purpose and progress of this department and committee was published in the *Railway Age* of July 22, 1944, page 159.)

Mr. Knight, who is a member of the Accounting division of the Association of American Railroads, has served as a member of the Committee on Disbursements and the Committee on Statistics, and from 1929 to 1930 was chairman of the Southeastern Accounting Conference.

Gerard B. Townsend, whose appointment as treasurer of the Erie with headquarters at Cleveland, Ohio, was announced in the *Railway Age* of June 29, was born at New York on April 3, 1902. Mr. Townsend attended Phillips Exeter academy and was graduated from Princeton university in 1923. After serving as freight traffic solicitor of the Munson Steamship Lines, he worked for several years as a railroad statistician with various banks and invest-

Gerard B. Townsend

ment banking houses, and in 1935 was given charge of the railroad division of the corporate underwriting department of Lazard Freres & Co. In 1943 Mr. Townsend joined the Union Trust Company of Pittsburgh (Pa.), where he headed the railroad analysis department in addition to his duties as supervisor of loans. Mr. Townsend became associated with the Erie on January 1, 1945, as assistant to the president, the post he relinquishes to assume the duties of his new office.

I. H. Cooper has been appointed acting auditor of freight accounts, of the Florida East Coast at St. Augustine, Fla., succeeding **A. H. Reeder,** deceased.

Leo J. Gosney, special accountant to the general auditor of the Western Pacific at San Francisco, has been promoted to assistant general auditor, with the same headquarters.

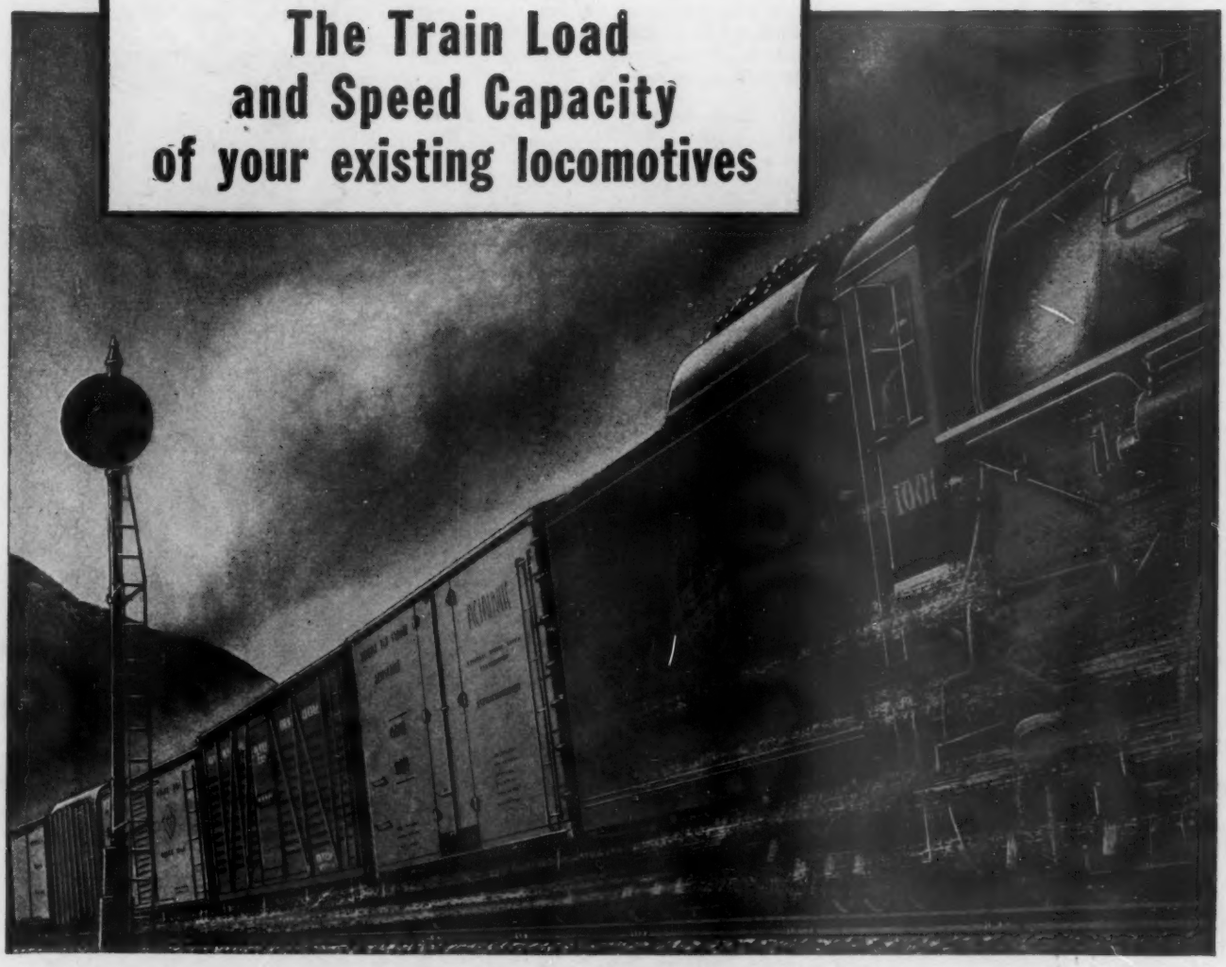
J. G. Austin, whose retirement as auditor of disbursements of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of June 29, was born in Galion, Ohio. Mr. Austin entered the service of the Erie at the age of 18 in the superintendent's office at Galion. After holding a number of positions at that point, he worked briefly in Mansfield, Ohio, subsequently returning to his native community and remaining there until 1906 when he was transferred to the office of the auditor of disbursements at New York. He was appointed auditor of disbursements in 1920 at New York and in 1928 also assumed responsibility for the general auditor's office, transferring to Cleveland in 1931.

Eugene F. Morgenroth, whose retirement as treasurer of the Erie at Cleveland, Ohio was announced in the *Railway Age* of June 29, was born at Paterson, N. J., on April 26, 1879, and entered railway service on January 13, 1896, as a messenger in the office of the auditor of traffic of the Erie at New York. On November 1, 1903, he was promoted to traveling auditor and in March, 1911, became a clerk in the treasury

News Department continued on next left-hand page

Step up...

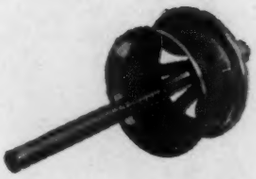
The Train Load and Speed Capacity of your existing locomotives



THE FRANKLIN SYSTEM of STEAM DISTRIBUTION

produces

up to 35%, or more, horsepower over the conventional piston valve locomotive



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

department at New York. He was advanced to assistant paymaster in October, 1917, and to chief clerk in May, 1918. Mr. Morgenroth was named assistant treasurer in August, 1923, with headquarters at New York, later transferred to Cleveland. He had been serving the Erie as treasurer since December 1, 1938.

Casselberry D. Dutschke, chief clerk of the auditor of passenger accounts of the Louisville & Nashville, at Louisville, Ky., has been promoted to auditor of passenger accounts, with the same headquarters, succeeding **F. G. Schwab,** whose death is reported elsewhere in this issue.

Howard T. Whipple, whose retirement as assistant general counsel of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of June 29, was born at Malone, N. Y., on January 22, 1879. Mr. Whipple studied at Franklin academy, Malone, and later attended the Albany Law School, being admitted to the New York state bar in 1906. Early in his career he was connected with the Title Guarantee & Trust Company, first as an examiner and then as manager of the Nassau County Branch office. He entered railway service with the Erie on February 12, 1911, as an attorney, later serving successively as assitant general attorney and assistant general solicitor. From April, 1925, nutil July 16, 1937, Mr. Whipple served as general attorney of the Erie, on the latter date becoming assistant general counsel, from which position he recently retired.

R. M. Sutton, auditor of general and station accounts of the Union Pacific at Omaha, Neb., has been promoted to auditor of disbursements, with the same headquarters, succeeding **Frank J. Krecek,** whose retirement was reported in the *Railway Age* of June 29. **E. M. Kerrigan,** assistant to the general auditor, has been advanced to auditor of miscellaneous accounts, **L. A. White,** who in turn has been promoted to auditor of general and station accounts, relieving Mr. Sutton.

Mr. Sutton entered railway service in 1915 as a clerk in the passenger accounts department of the Union Pacific, with headquarters at Omaha. He subsequently served as head clerk, traveling accountant and chief clerk until 1924 when he was promoted to accountant in charge of the dining car and hotel accounting department, with headquarters at Ogden, Utah. In 1930 Mr. Sutton was transferred to Omaha, and in 1942 he was advanced to the position he held at the time of his new appointment.

OPERATING

C. D. Buford has been appointed inspector freight transportation of the New York Central System, with headquarters at Cleveland, Ohio.

D. F. Savage, trainmaster, New River division of the Virginian, has been appointed assistant superintendent, with headquarters at Princeton, W. Va., and the position of trainmaster has been abolished.

Prentiss S. Hughel, assistant superintendent telegraph of the New York Central, has been appointed superintendent telegraph, with headquarters at Detroit, Mich., succeeding **C. E. Baxter,** whose death on May 22 was reported in the *Railway Age* of June 15.

Margaret M. Lynch, who has been on the stewardess-nurse staff of the Baltimore & Ohio since January, 1941, has been appointed supervisor of stewardess service, with headquarters at Chicago, succeeding **Norma Thompson,** who has accepted a position with the Atchison, Topeka & Santa Fe in a similar capacity.

J. C. Nickerson, division engineer of the Louisville & Nashville at Latonia, Ky., has been appointed superintendent, Eastern Kentucky division, succeeding **E. C. Sparks.** (A photograph of Mr. Sparks and a sketch of his railway career appeared in the *Railway Age* of September 22, 1945, page 507, following his appointment to the post from which he recently retired.)

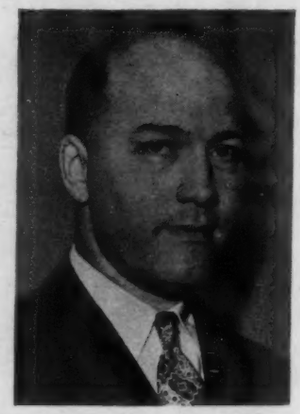
Edward T. Gallagher, assistant superintendent of transportation of the Western Pacific at San Francisco, Cal., has been promoted to superintendent of transportation, with the same headquarters, succeeding in part to the duties of **John P. Quigley,** who has retired as superintendent of transportation and telegraph after 36 years of service with that road. **William M. Foster,** car service inspector and inspector of transportation, has been advanced to assistant superintendent of transportation, replacing Mr. Gallagher.

H. B. Tucker, assistant superintendent of the New York Central at New York, has been promoted to superintendent of the Rochester division, with headquarters at Rochester, N. Y., succeeding **J. M. Greenwood,** promoted to general safety agent. Further changes on this road include: **J. E. Guilfoyle,** trainmaster, to assistant superintendent, with headquarters as before at Buffalo, N. Y., suceeding **R. H. McGraw,** whose appointment is noted elsewhere in this issue; **R. G. May** appointed assistant superintendent, New York terminal district, headquarters at West 72nd street, New York; **W. R. Main,** appointed trainmaster, River division at Weehawken, N. J., and **W. W. Herrick, Jr.,** appointed trainmaster, Buffalo.

Clare I. Clugh, whose appointment as superintendent of the Pennsylvania at Logansport, Ind., was announced in the *Railway Age* of May 4, was born at Altoona, Pa., and was educated at Valparaiso and Purdue universities, entering the service of the Pennsylvania as a machinist apprentice at Altoona in June, 1918, and advancing through various positions there until 1929, when he was appointed motive power inspector at Harrisburg, Pa. He then served successively as gang foreman at Harrisburg and enginehouse foreman at Delmar, Del., and in 1937, was advanced to assistant master mechanic of the Lake division at Cleveland, Ohio. Mr. Clugh became resident inspector at Pittsburgh, Pa., in 1938, chief material inspector at Altoona in 1941, and master mechanic of the Philadelphia Terminal division in 1943, from which post he transferred to the Pittsburgh, Conemaugh & Monongahela divisions, with headquarters at Pitcairn, the post he was maintaining at the time of his recent appointment.

TRAFFIC

J. R. MacAnally, whose promotion to assistant freight traffic manager of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of June 29, entered railway service in 1926 in the traffic department of the Union Pacific at Philadelphia, Pa. In 1930 he was transferred to Chicago where he subsequently held various traffic department positions until 1941, when he was promoted to general agent, with headquarters at Milwaukee, Wis. In the same year Mr. MacAnally was appointed assistant general agent, with headquarters at Chicago, and on May 1, 1944, he was advanced to assistant to the general freight traffic manager at Omaha, the position he held at the time of his new appointment.



J. R. MacAnally

Harold W. Quinlan, assistant manager of personnel in the operating department of the New York, New Haven & Hartford at New Haven, Conn., has been appointed passenger traffic manager of the New Haven at Boston, Mass., succeeding **Henry M. Erving,** deceased. Mr. Quinlan was born at Somerville, Mass., on April 6, 1900, and is a graduate of Harvard university (1922) and the Harvard Graduate School of Business Administration (1925). Entering the services of the New Haven as statistician in the office of the assistant to general manager in 1928, he became chief clerk in the dining car department in 1932,

Harold W. Quinlan

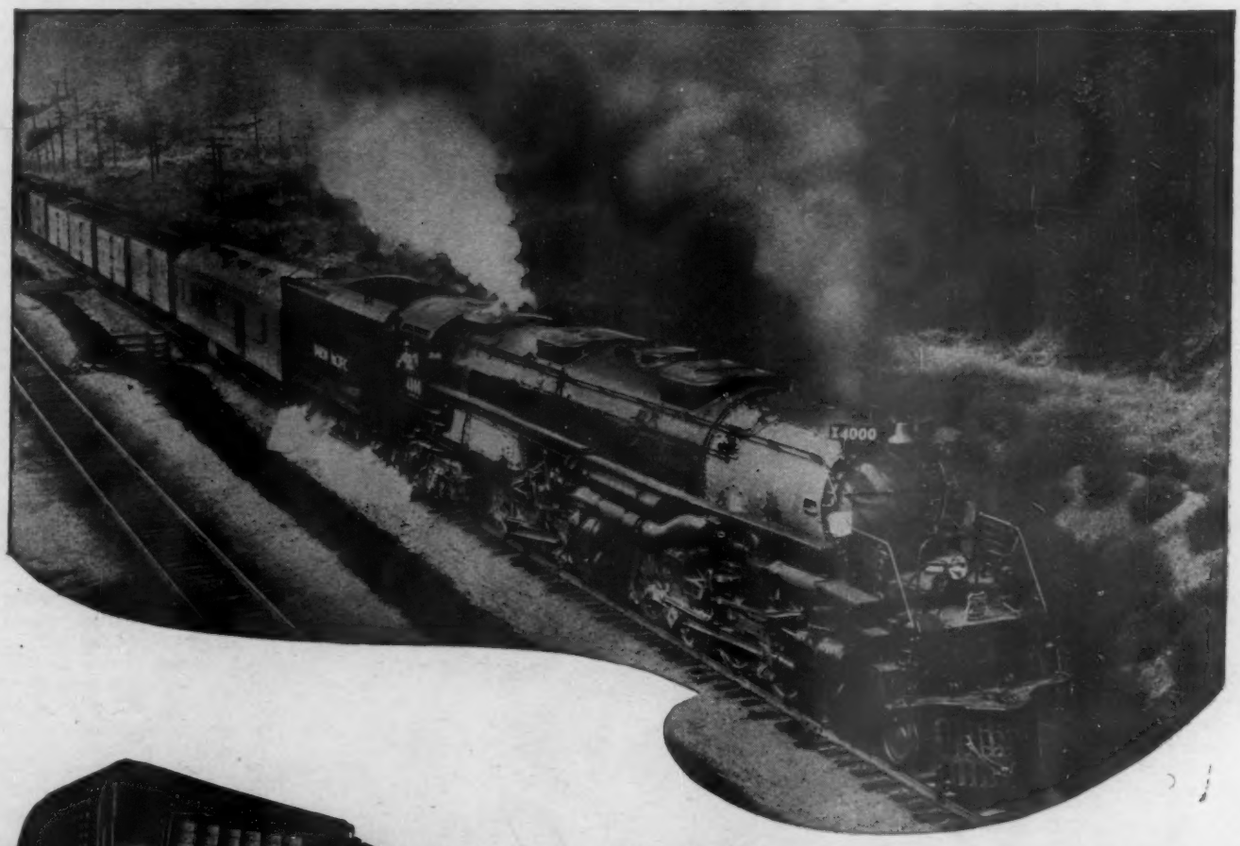
News Department continued on next left-hand page

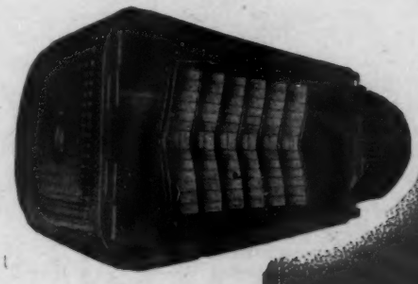
To do Today's Job

• Union Pacific's mighty 4-8-8-4's, designed to meet today's tremendous demands for fast freight movement, are capable of continuous operation under maximum horsepower output.

The firebox of each locomotive of this type is equipped with seven Security Circulators, making it possible to maintain a well proportioned brick arch.

The Water Line is Your Life Line





AMERICAN ARCH COMPANY, INC.
NEW YORK · CHICAGO
SECURITY CIRCULATOR DIVISION

and subsequently was appointed assistant superintendent of that department, becoming superintendent dining cars in 1934. Mr. Quinlan was promoted to manager, dining service, of the New Haven in 1943 and remained at that post until October, 1945, when he was appointed assistant manager of personnel, his position previous to his most recent appointment.

W. Roscoe Bourne, agent of the Illinois Central, at Jackson, Miss., has been promoted to general agent, with headquarters at Evansville, Ind.

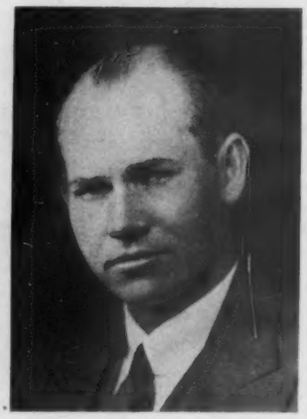
Henry A. Wilson, assistant general eastern freight agent of the Erie, has been promoted to general eastern freight agent, with headquarters as before at New York, succeeding **C. V. Harrow,** who has been promoted to assistant freight traffic manager at Chicago. **Lawrence J. Burgott** has been appointed to succeed Mr. Wilson as assistant general eastern freight agent at New York.

Mr. Wilson was born at Penn Yan, N. Y., on May 27, 1893. He entered railway service with the Erie as station agent's helper at Callicoon, N. Y., in 1911, subsequently

Henry A. Wilson

serving as clerk, telegraph operator and agent. In April, 1920, he transferred to the traffic department as traveling freight agent at Paterson, N. J., later going to Newark, N. J., in the same capacity. He became general export and import agent at New York in 1927, and in 1935 went to Milwaukee, Wis., as general agent. He was appointed division freight agent at Jamestown, N. Y., in 1941; general agent at Philadelphia, Pa., in July, 1942; and in September, 1945, was promoted to assistant general eastern freight agent, the position he was maintaining at the time of his recent promotion.

Earle Robert Comer, whose promotion to passenger traffic manager of the Pennsylvania, system jurisdiction, with headquarters at Philadelphia, Pa., was announced in the *Railway Age* of July 6, was born at Newfield, N. J., on September 2, 1902. Entering railroad service on June 19, 1920, as tower leverman in the telegraph department, West Jersey & Seashore (now Pennsylvania) at Atlantic City, N. J., Mr. Comer later served successively as block operator, ticket clerk, and freight clerk. On July 9, 1923, he joined the Pennsylvania as stenographer in the passenger traffic department at Atlantic City, and four years later he became passenger representative at Miami, Fla., transferred to New York in May, 1929, advanced to district passenger agent at Boston, Mass., in July of the same year, and was appointed



Earle Robert Comer

New England passenger agent at that point four years later. He was named division passenger agent at Indianapolis, Ind., in May, 1936, and was transferred to New York in April, 1937. Mr. Comer became assistant general passenger agent of the Long Island in September, 1938. He was appointed to a similar position on the Pennsylvania in June, 1939, with headquarters at Philadelphia, and transferred to New York in May, 1940. Mr. Comer advanced to general passenger agent at Washington, D. C., in May, 1941, and later transferred to New York, from which position he was recently promoted to passenger traffic manager.

Charles O. Showalter, whose promotion to assistant freight traffic manager of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of June 29, was born at Topeka, Kan., on July 28, 1903, and entered railway service in August, 1923, in the freight accounting

Charles O. Showalter

department of the Union Pacific, holding various positions until May 26, 1929, when he entered the traffic department as a freight tariff clerk. Later he served as rate clerk, with headquarters at Omaha, and on April 1, 1940, he was promoted to chief rate clerk, with the same headquarters. On September 1, 1942, Mr. Showalter was advanced to chief clerk to the vice-president, traffic, at Omaha, and on November 16, 1943, he was promoted to assistant to the vice-president, traffic, the position he held at the time of his new appointment.

Herman T. Denning, division passenger agent of the Seaboard Air Lines, has been promoted to assistant general passenger agent, with headquarters at Birmingham, Ala.

M. J. Duffy, general agent of the Kansas City Southern, with headquarters at Louisville, Ky., has retired. Effective with Mr. Duffy's retirement, the Louisville office will be closed and the territory placed under the jurisdiction of **L. A. Kelley,** general agent at Cincinnati, Ohio.

Charles W. Wells, whose appointment as assistant general freight traffic manager of the Canadian National, with headquarters at Montreal, Que., and system jurisdiction, was announced in the June 22 issue of *Railway Age,* was born at Brighton, England, and entered railway service in 1905 in the

Charles W. Wells

freight traffic department of the Grand Trunk (now the C. N. R.) at Montreal. He rose through various clerical positions until 1924, when he was appointed assistant manager of the rate and tariff bureau, then was promoted to chief of that department in 1926. In 1930, Mr. Wells was named assistant general freight agent, and in 1939, general freight agent, transferring to Toronto in 1940, where he was advanced to freight traffic manager in 1945, the post he held until his recent appointment.

J. S. Coward has been appointed general agent of the Chicago Great Western, with headquarters at Spokane, Wash., succeeding **Paul E. Johnson,** who has been transferred to St. Paul, Minn., where he replaces **Ross M. Hatfield,** whose death on June 17 is reported elsewhere in this issue.

Robert G. Holmes, whose retirement as general freight agent of the Canadian Pacific, with headquarters at Winnipeg, Man., was reported in the *Railway Age* of June 8, was born at Winnipeg, on June 9, 1880. He entered railway service on September 8, 1898, as an office boy on the Canadian Pacific, subsequently holding various positions at Winnipeg until May

News Department continued on next left-hand page

The American Multiple-valve Throttle

...popular the World Over

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16, 1911, when he was promoted to chief of the tariff bureau, with the same headquarters. On October 10, 1916, Mr. Holmes was advanced to assistant general freight agent, also at Winnipeg, and on September 1, 1944, he was further advanced to the position he held at the time of his retirement.

ENGINEERING & SIGNALING

R. E. Peck, assistant engineer of the Missouri Pacific at St. Louis, Mo., has been promoted to assistant bridge engineer, with the same headquarters.

R. W. Willis, principal assistant engineer of the Chicago, Burlington & Quincy at Chicago, has been promoted to assistant chief engineer, with the same headquarters, a newly-created position.

A. B. Chapman, bridge engineer of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, has been promoted to engineer and superintendent of bridges and buildings, with the same headquarters, succeeding **Gunnar Tornes,** whose recent retirement was reported in the *Railway Age* of July 6.

Norman A. Menzies, chief clerk of the telegraph department of the Western Pacific at San Francisco, Cal., has been promoted to superintendent of telegraph, succeeding in part to the duties of **John P. Quigley,** whose retirement as superintendent of transportation and telegraph is reported elsewhere in this issue.

Andrew R. Ketterson, whose retirement as engineer of bridges for the Canadian Pacific at Montreal, Que., was announced in the June 29 issue of *Railway Age,* was born on June 24, 1881, at Greenock, Scotland, and was graduated from the Royal Technical College at Glasgow (C. E.). He entered railroading as a bridge inspector for the C. P. R. in 1907, advancing to assistant engineer in 1910, and leaving in 1916 for military service. Serving as a major in the Canadian Expeditionary Forces in France, he was awarded the Distinguished Service Order. Mr. Ketterson returned to the Canadian Pacific in 1919 as assistant to engineer of bridges, and was promoted to assistant engineer of bridges in 1928. His advancement to the post from which he now retires was made in 1937.

Charles H. Splitstone, whose retirement as assistant chief engineer of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of July 6, was born at Linesville, Pa., on January 19, 1878, and attended Pennsylvania State college. He entered railway service in 1901 as a rodman on the Pennsylvania, lines west of Pittsburgh, with headquarters at Bedford, Ohio. In 1903 he was promoted to chief of party, with headquarters at Chicago, and two years later was transferred to Pittsburgh, Pa. Mr. Splitstone went with the Erie in 1906 as chief of party at Olean, N. Y., later being promoted to resident engineer and in 1909 was advanced to chief draftsman, with headquarters at New York, being promoted to office engineer in 1917, and thereafter advanced through the positions of engineer of construction, superintendent of construction, and superintendent of construction and surveys; and in 1941 was promoted at Cleveland to the position from which he recently retired.

Joseph W. Smith, whose retirement as chief engineer of the Erie at Cleveland, Ohio, was announced in the *Railway Age* of July 6, was born at Hazleton, Pa., on August 8, 1879, and was graduated from Lafayette college (C.E., 1904). Mr. Smith entered railway service with the Erie in June, 1904, as a transitman on preliminary

Joseph W. Smith

surveys, and in September, 1905, was promoted to inspector of construction work. Promoted to resident engineer, terminal improvements in February, 1907, he later served on double track and grade reduction work, and in February, 1912, became assistant engineer, double track and grade reduction. He was advanced to district engineer with supervision of terminal improvements, headquarters at New York in February, 1913, and four years later was appointed assistant valuation engineer becoming general office engineer in 1925 and principal assistant engineer at New York in 1929. Mr. Smith had served as chief engineer at Cleveland since 1941.

The following appointments in the engineering department have been announced by the New York, New Haven & Hartford: **Floyd J. Pitcher,** engineer of structures and design, appointed assistant to chief engineer in charge of design and construction with headquarters as before at New Haven, Conn. **George F. Hand,** general assistant engineer, appointed assistant to chief engineer, in charge of special developments with headquarters as before at New Haven. **William T. Dorrance,** assistant to chief engineer, appointed consulting engineer, with headquarters as before at New Haven. **Albert A. Cross,** division engineer at Hartford, Conn., appointed general assistant engineer at New Haven. **Gray W. Curtiss,** division engineer, appointed district engineer with headquarters as before at New Haven, **George P. Elliott,** division engineer, appointed district engineer, with headquarters as before at Boston, Mass. **Thure P. Polson,** engineer of track, appointed assistant to engineer, maintenance of way, with headquarters as before at New Haven. **John B. Bell,** division engineer at Providence, R. I., appointed engineer of track at New Haven. **James L. Rippey,** assistant engineer of structures, appointed general supervisor of bridges and buildings with headquarters as before at New Haven. **Charles D. Prentice,** office assistant to chief engineer, appointed division engineer, with headquarters as before at New Haven. **Sydney J. Polson,** assistant division engineer, New Haven, appointed division engineer at Boston. **Harry B. Bussing,** assistant division engineer, Boston, appointed division engineer at Providence. **Henry K. Hislop,** assistant division engineer, Providence, appointed division engineer at Hartford. **Erwin A. Davidson,** architectural draftsman, appointed assistant construction engineer at New Haven. **Albert A. Cawood,** bridge inspector, Boston, appointed assistant bridge engineer at New Haven. **George K. Merrill,** track supervisor at Hartford, appointed assistant division engineer at New Haven. **Harold W. Jenkins,** bridge and building supervisor, appointed assistant division engineer, with headquarters as before at Boston. **Ernest L. Mortimer,** bridge and building supervisor at Hartford, appointed assistant division engineer at Providence.

SPECIAL

J. M. Greenwood, superintendent of the Rochester division of the New York Central, with headquarters at Rochester, N. Y., has been appointed a general safety agent for the system at New York, succeeding **Charles E. Hill,** whose retirement was announced in the June 29 issue of *Railway Age.*

Mr. Hill was born on January 24, 1876, at Norris City, Ill., and was graduated from Southern Illinois College in 1894. He began his railway service in 1906 as district claim agent for the Cleveland, Cincinnati, Chicago & St. Louis. Following service at Indianapolis, Ind., and Cleveland, Ohio, he became general safety agent of the New York Central system in 1922. He has become internationally known as a pioneer of modern safety practices and methods, and has created new forms for the reporting of injuries, and from the knowledge gained by these, fashioned new rules and safety practices, many of which have become standard. Other contributions of Mr. Hill to the betterment of railroad safety conditions were noted in the *Railway Age* of July 6, page 20.

OBITUARY

F. G. Schwab, auditor of passenger accounts of the Louisville & Nashville at Louisville, Ky., died on June 23.

Christian H. Sellmann, retired auditor of revenues of the New York, Chicago & St. Louis, died on July 1.

John W. Besch, auditor and secretary of the Union Station Company, Chicago, died at his home in Aurora, Ill., on July 8.

Ross M. Hatfield, general agent of the Chicago Great Western, with headquarters at St. Paul, Minn., died in that city on June 17.

Samuel McClellan Adsit, consulting traffic manager of the Virginian since 1941, died on June 30 at his home in Flushing, Queens, N. Y. at the age of 83.

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EVERYBODY knows the Chesapeake and Ohio. Even far beyond its own South and Middle West territory, this great road has a reputation for dependable service. Like most Class I railroads, the Chesapeake and Ohio is a long-time user of Hunt-Spiller Gun Iron for wear resisting parts of steam locomotives. The fact that this association between the C. & O. and HSGI has endured for more than a generation is proof of the high quality of Hunt-Spiller Gun Iron.

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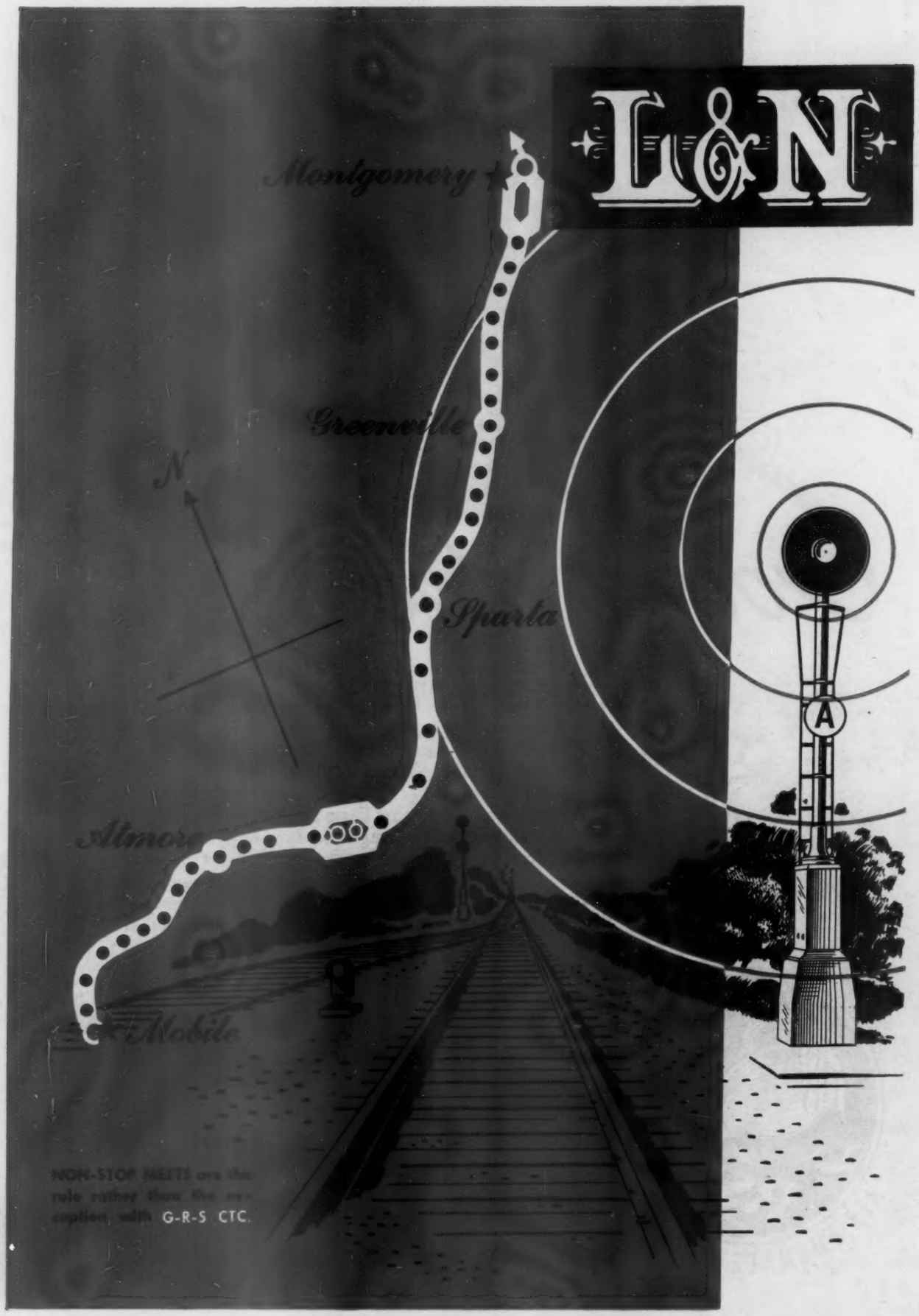
Valve Bull Rings	Cylinder Liners and Pistons for Diesel Service	Valve Rings, All Shapes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NON-STOP MEETS are the rule rather than the exception with G-R-S CTC.

L & N CLIPS TRAIN TIME *a minute a mile* ...WITH G·R·S CTC

Trains get through more quickly . . . and delays at sidings are reduced to a minimum . . . since the Louisville & Nashville installed G-R-S CTC.

This change from rigid train orders and time table superiority to operation by flexible signal indication has stepped up average train speeds along the 178-mile stretch of single-track between Mobile and Montgomery. On the south-bound run, for example, the average saving per train is 1 hour and 24 minutes . . . on the north-bound run, 2 hours and 52 minutes — *a saving of a minute a mile!*

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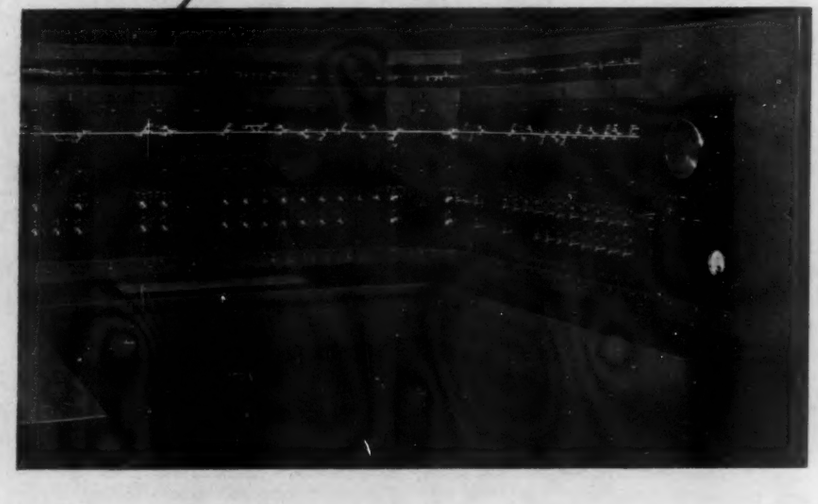
With labor costs mounting and the pressure from trucking competition increasing, G-R-S CTC may be the answer to your problems. So why not let a G-R-S engineer tell you what benefits you can expect from this modern method of traffic control? Simply phone or write today.



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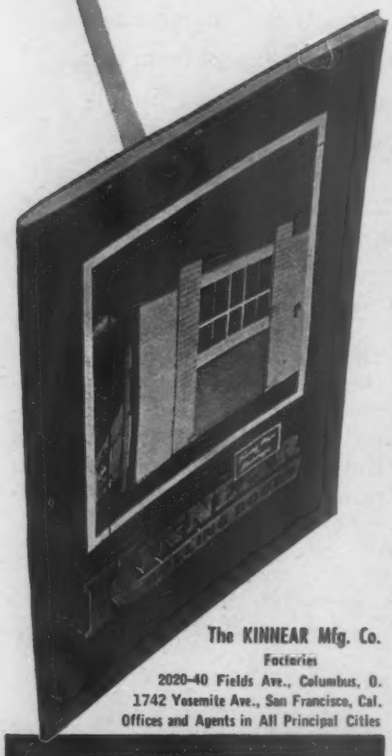

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NEWS DEPARTMENT

(*Continued from page 64*)

Defense Testimony Continues in Georgia "Conspiracy" Case

The tremendous industrial growth of the South in recent years would have been impossible if railroad freight rates in that section had not been on a competitive basis with those in other parts of the country, E. R. Oliver, vice-president—traffic of the Southern, told United States Supreme Court Special Master Lloyd K. Garrison in the state of Georgia's suit against southern and eastern railroads, as testimony in that case was resumed July 9 in New York. Mr. Oliver said that the fact that the South has become so industrially important refutes Georgia's charge that the state has been injured by alleged discriminatory freight rates.

"For the railroads to enter a conspiracy against Georgia would not make sense," he maintained, "as it would amount to conspiracy against their own best interests. A railroad cannot prosper unless the territory it serves also prospers."

Pointing out that the South has turned from an almost wholly agricultural section to one largely engaged in industry, Mr. Oliver testified that in 1940, before the United States entered the war, the products of manufacture and miscellaneous articles for the United States as a whole decreased nearly 16 per cent as compared with 1928, the year before the depression, while in the Southern region and on the Southern Railway the comparison showed that 1940 production was greater than that for 1928.

In the 40-year period ending 1939, he continued, the value of products manufactured for the United States as a whole increased 419 per cent, while that for the state of Georgia went up 617 per cent. During the 10-year period, 1929-1939, he added, products manufactured for the country as a whole declined 16.4 per cent, but in the southern states, including Georgia, they increased 10 per cent.

The Textile Situation—In discussing freight rates on textiles, Mr. Oliver explained how southern railroads, working in agreement with eastern lines, have maintained a rate level somewhat lower than the basis which had been prescribed by the Interstate Commerce Commission, with the result that southern shipping points from New Orleans to Savannah can today reach the important market of Chicago on a substantial rate parity with the textile-producing points in New England.

Moreover, he went on, the southern and the eastern railroads have worked out and put into effect on finished products such as sheets, pillow cases and towels, rates that were substantially lower than those prescribed by the commission. These rates, he said, enable southern manufacturers not only to convert raw cotton into yarn and piece goods, but also to produce the final article for public consumption.

The witness called attention to milling in transit as a good illustration of the railroads' true attitude toward the state of Georgia. He stated that grain is drawn in, milled and shipped out at the through rate on the manufactured product, thus putting Georgia mills on a competitive relationship with mills located at or near the grain-producing area. In 1939, he said, there were 39 such mills in Georgia turning out products valued at approximately five million dollars a year.

Southern Not "Coerced"—After declaring that Georgia's ports have been accorded competitive rate adjustments along with the other South Atlantic and Gulf ports, Mr. Oliver denied that the Southern Railway has been coerced by other railroads or anyone else in the matter of rate adjustments, and he emphasized that his railroad and other lines which are members of the Southern Freight Association "zealously safeguard their respective right to independent action in regard to all rate matters."

"These railroads," he concluded, "avail themselves of that right where they consider it as being in the best interest of Georgia and the territory served by them."

The Southern's general counsel, S. R. Prince, preceded Mr. Oliver with a brief statement to refute the allegation that railroads in the South were "coerced" by eastern connections into making rates unfavorable to the South. If there has been any coercion, he said, "it is strange that we, the coerced party, know nothing of it."

Canadian Railroaders on King's Honors List

Executives of the Canadian National and Canadian Pacific were included in those whose contribution to their country's war effort was marked by inclusion in the list of honors awarded by the king on Dominion Day, July 1.

The highest award, companion of the order of St. Michael and St. George, went to D. C. Coleman, chairman and president of the Canadian Pacific; R. C. Vaughan, chairman and president of the Canadian National; S. J. Hungerford, retired president of the Canadian National, who had the responsibility of president of National Railways Munitions, Ltd., during the war; and J. C. Patteson, European general manager of the Canadian Pacific, whose war-time post was Canadian representative at Ottawa of the British Ministry of Supply.

Those named commander of the Order of the British Empire were, from the C. N. R. staff, Walter S. Thompson, director of public relations, honored for his work in organizing the Canadian government's war-time censorship and public information activities, and Maynard A. Metcalf, executive assistant to president. The same award went to the following C. P. R. officers: H. B. Bowen, chief of motive power and rolling stock and director of the railroad's munitions production; W. A. Newman, manager department of research, who was in charge of the nation's aircraft industry; George Stephen, vice-president traffic, who was assistant Canadian representative of the British Ministry of War Transport; and W. M. Kirkpatrick, retired foreign freight traffic manager, who was freight director for the Ministry of War Transport.

Eight Canadian National men were named officers of the Order of the British Empire: W. M. Armstrong, general manager Canadian National telegraphs; R. B.

Teakle, retired general manager steamship lines; John Roberts, managing director National Railways Munitions; John Schofield, chief architect; L. C. Thomson, manager of stores; G. L. Bryson, passenger traffic manager; and W. D. Low and W. J. Atkinson, both of the purchasing department.

The same honor went to three Canadian Pacific men: H. J. Humphrey, retired vice-president special duties; W. D. Neil, general manager of communications; and B. W. Roberts, general purchasing agent. In addition, the same award was given J. J. Fitzpatrick, supervisor of workmen's compensation in the general claims department of the C. P. R., on duty with the Royal Air Force Transport Command, while the designation commander of the Order of the British Empire went to J. B. Ward, on loan from the C. P. R. to the railway brotherhoods since 1927, serving as chairman of the general conference committee of the International Railway Labor Organization.

1945 Crossing Accidents

Accidents at rail-highway grade crossings during 1945 resulted in the death of 1,903 persons and injuries to 4,446, it is disclosed in the compilation issued recently by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. In 1944, 1,840 persons were killed and 4,216 injured.

Crossing accidents last year totaled 4,100 compared with 3,811 in 1944, an increase of 7.58 per cent, while fatalities were up 3.42 per cent and injuries 5.46 per cent.

Another tabulation shows that the 1945 crossing fatalities accounted for 42.62 per cent of the persons killed that year in all railroad accidents resulting from train operation. This compares with 40.64 per cent in 1944 and 36.99 per cent in 1943. Crossing accidents accounted for 12.43 per cent of 1945's non-fatal injuries, as compared with 12.01 per cent in 1944 and 12.56 per cent in 1943.

Road freight trains were involved in 41.65 per cent of the 1945 crossing accidents while passenger trains were involved in 43.06 per cent of the total. The frequency rate for freight trains was 2.26 per million train-miles; for passenger trains, it was 3.17 per million train miles. These compare respectively with 1944 figures of 2.16 and 2.8. Sixty-six per cent of the accidents in which the motor vehicle was struck by the train occurred in daylight, while 72.30 per cent of those in which the motor vehicle ran into the side of the train occurred after dark.

As was the case in 1944, December was the 1945 month in which the greatest number of crossing accidents occurred. Saturday, which has held first place since the compilation was begun in 1935, remains the day of the greatest accident frequency. The weather was reported "clear" when 69.06 per cent of the accidents occurred; and the speed of the motor vehicle was given as "standing" or moving at not more than 30 m.p.h. in 61.40 per cent of the accidents involving motor vehicles. Standing freight trains were involved in 7.06 per cent of the total freight train-motor vehicle accidents involving freight trains.

BAKER *Articulated* FORK TRUCK places loads at RIGHT ANGLES to 7 ft. AISLES!

Above—Baker 2-ton Articulated Fork Truck spotting pallet load of parts beside machine at right angle to 7 ft. aisle.

Right—36 inch pallet-load of machined pedestal shoe castings are handled easily in close quarters. Distance between white lines—7ft.

A striking example of the BAKER *Articulated* Fork Truck's successful operation in congested areas is the case of the locomotive division of a large electrical manufacturer. In this plant, heavy parts are handled on pallets between manufacturing processes. Conventional power trucks could not be used effectively because many of the aisles were only 7 ft. wide. BAKER *Articulated* Fork Trucks satisfactorily solved the problem, enabling the company to mechanize handling operations without costly plant alterations.

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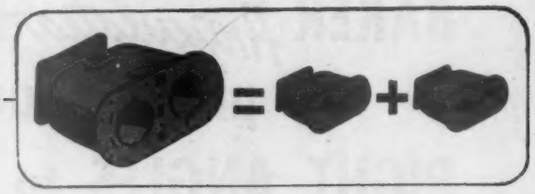
(Adv. p. 45) 82



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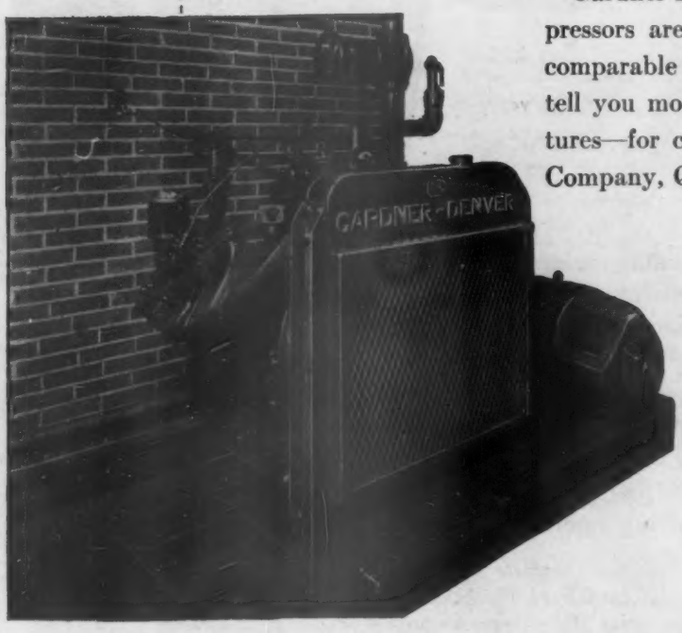
Conventional air compressor design calls for one large, low pressure cylinder in conjunction with each high pressure cylinder. But Gardner-Denver engineers were not satisfied merely to follow established practice. So, in designing the Class WB Two-stage Vertical Water-cooled Compressors, Gardner-Denver engineers put in *two* small diameter, low pressure cylinders for each high pressure cylinder.

Thousands of "WB" compressor owners have reaped the benefit! For the unique "WB" design permits lower air temperatures—with corresponding saving in horsepower. Inertia loads are reduced because all pistons can be small and lightweight. Better water cooling is possible—and that, in turn, means better lubrication, reduction of cylinder distortion, and longer life. "Oil thinning" is eliminated and thus much less lubrication oil is used.

Gardner-Denver "WB" Vertical Water-cooled Compressors are remarkably compact—yet have efficiencies comparable to that of large horizontal compressors. Let us tell you more about their space-saving, cost-saving features—for complete information, write Gardner-Denver Company, Quincy, Illinois.



Gardner-Denver Class "WB" Two-stage Vertical Water-cooled Compressor—available with built-in motor with V-belt or direct drive. Capacities 142 to 445 cubic feet displacement per minute.

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Since 1859

Yoloy EXCELS IN CORROSION RESISTANCE

1

Corrosion- in Ocean Beach Atmosphere

Small panels of nickel copper steels and two commercial steels 3" x 5" x 0.020" thick were mounted vertically in a wooden rack on a remote section of New Jersey ocean beach. The time elapsed to the first perforation is given below:

Material	Life to First Perforation -- Years
Ingot Iron (0.04% C)	1.5
Steel (0.07% C, 0.17% Cu) . .	1.5
Steel (0.07% C, 0.61% Cu, 1.39% Ni)	Over 5
Steel (0.11% C, 1.18% Cu. 2.76% Ni)	Over 5

2

Corrosion- Submerged in Inland River Water

A number of high tensile steels were included in a test conducted by the U. S. Engineers in the Allegheny River near Pittsburgh. Specimens were totally immersed for 300 days. These data are cited since this river is considered to be representative of waters in industrial regions above tidewater.

Material	Date N.N.D.*	in./yr.
Mild Steel	19.2	0.0035
.27 Cu Steel	17.1	0.0031
2.0 Ni, 1.0 Cu Steel . . .	16.0	0.0029

*(Milligrams per square decimeter per day)

3

Corrosion - in Coal Car Service

In coal car service after approximately six years, the relative corrosion rates based on loss in weight was 1.0 for nickel copper steel, 1.73 for copper steel (.25% minimum copper) and 2.15 for mild carbon steel. Subsequent reports after twelve year service indicated that both the carbon and copper bearing steel had to be replaced while the nickel copper steel was still in service and still had considerable service life remaining.

These test data are as reported in "Nickel Steel Topics," June, 1945

HERE are cited the results from a few corrosion tests made on a wide variety of steels. In each instance, Yoloy type steel (copper-nickel alloy) demonstrated a lower corrosion rate than other steels tested.

That these tests are typical is demonstrated by the outstanding performance of Yoloy steel in literally thousands of installations where it must stand up under highly corrosive conditions.

Yoloy is Youngstown's low-alloy, high-strength, nickel-copper steel. In addition to its proven ability to resist corrosion, Yoloy shows an amazing resistance to impact, shock, vibration and abrasion. Due to its greater strength, use of this steel permits lighter weight construction, with consequent weight saving of as much as 20% to 25%.

Yoloy is now available in sheets, plates, bars, rods and tubing. For complete information on Yoloy's suitability and performance in *your* type of service, write, wire or phone our nearest branch office.

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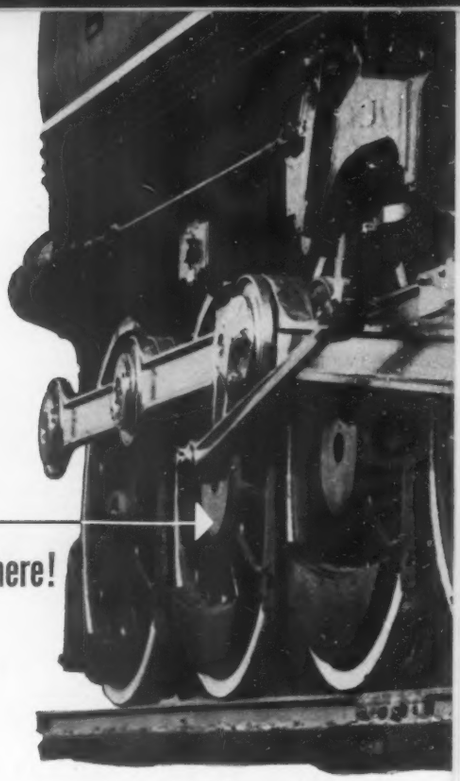
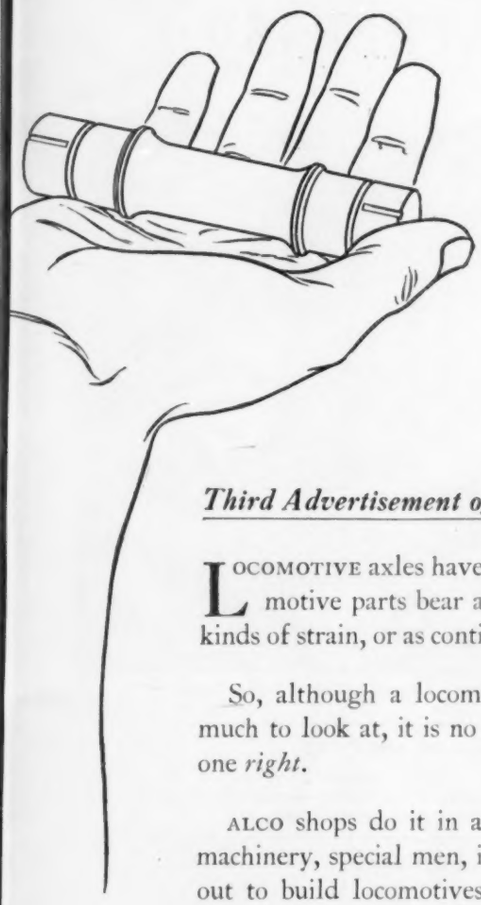
Facts About Steam Locomotive Parts

Axle



What happens here... may make a huge difference in service and safety here!



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So, although a locomotive axle may not be much to look at, it is no simple matter to make one *right*.

ALCO shops do it in a big way—with special machinery, special men, in a plant specially laid out to build locomotives and locomotive parts and *nothing else*.

For instance, the machine here pictured in an ALCO shop is finish-grinding an axle, using a six-inch base stone. The large grinding surface speeds production and permits precision grinding from end to end. Man and machine are specialists.

That's the point—*precision with economy*, made possible by (1) a crew of specialist craftsmen; (2) heavy equipment investment for *special machinery*; and (3) large-scale operation. Only in a large locomotive-building plant like ALCO's is such a setup practicable.

That is why when you buy genuine ALCO locomotive parts you know you will get safety and service—the greatest possible value per dollar! American Locomotive Company, 30 Church Street, New York 8, N. Y.

American Locomotive

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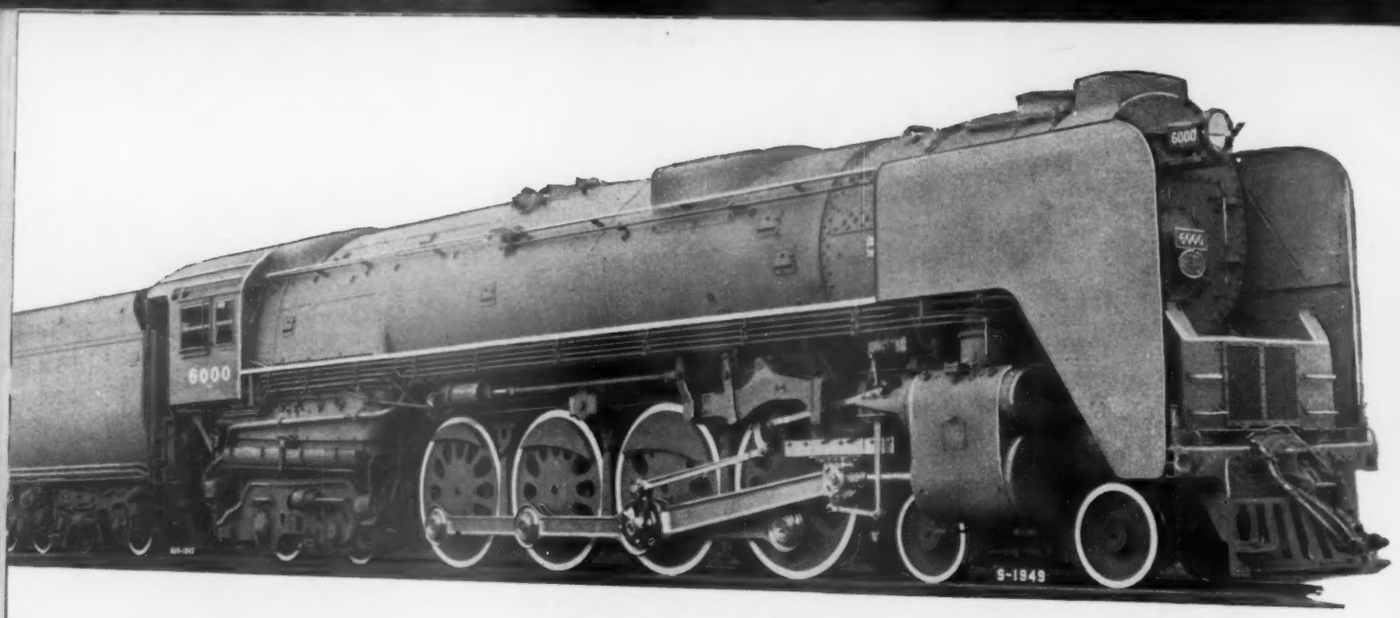

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NEW YORK CENTRAL "NIAGARA"
High Powered, High Speed Locomotive

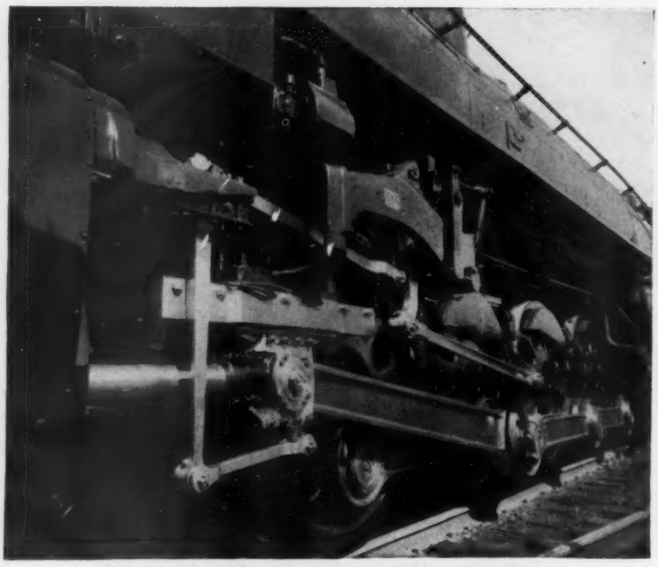
The 235-ton *Niagara*, New York Central's newest and largest locomotive, designed for handling both freight and passenger loads, is an outstanding tribute to advanced design—the result of combined engineering skills of railroad, equipment builder and material suppliers.

Drawing on a wealth of accumulated experience and performance records, New York Central specified high strength, normalized and tempered Manganese-Vanadium steel be used in the Timken roller bearing type main and side rods and Carbon-Vanadium steel in the roller bearing axles and other parts in the building of the *Niagara* at the Schenectady shops of the American Locomotive Company.

The exceptional properties of these vanadium steels are shown in the accompanying table. These properties were obtained by a normalizing and tempering heat treatment in conformance with requirements of the Association of American Railroads and the New York Central specifications. As a result, these important forgings, even with their high strength, have a minimum of sensitivity to thermal and mechanical abuse.

These properties also indicate why these practical vanadium steels, which combine high strength, exceptional ductility and *toughness*, excellent machinability and high resistance to fatigue, were the logical choice for this modern locomotive.

Here again is testimony that "Alloy Steels can do many jobs better!"



Close-up photo shows parts forged of Vanadium Steels

TABLE OF PROPERTIES:

Average results of tests on Vanadium Steels used in the Niagara

MANGANESE-VANADIUM STEEL

Physical Properties	Main Rods	Side Rods
Y.P. lbs. sq. in.	74,500	81,700
Tensile Strength	99,000	105,500
Elong. % in 2"	28.0	26.5
Red. Area %	59.0	60.5

CARBON-VANADIUM STEEL

Physical Properties	Driving Axles	Engine Truck Axles	Trailer Axles	Equalizers
Y. P. lbs. sq. in.	62,900	65,000	64,300	70,500
Tensile Strength	100,100	100,600	99,580	103,000
Elong. % in 2"	25.3	26.0	26.2	26.0
Red. Area %	43.7	48.2	48.8	49.1

VANADIUM CORPORATION OF AMERICA

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Plus
SNUBBING

2¾" Travel

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Satisfy yourself as to what these new Style C-200 Spring Nests will do for your equipment by installing them under one of your tenders in high speed service. In co-operation with your engineers, we'll furnish instruments to make recordings of riding qualities, "Before and After." Write for Bulletin No. 13.

HOLLAND COMPANY
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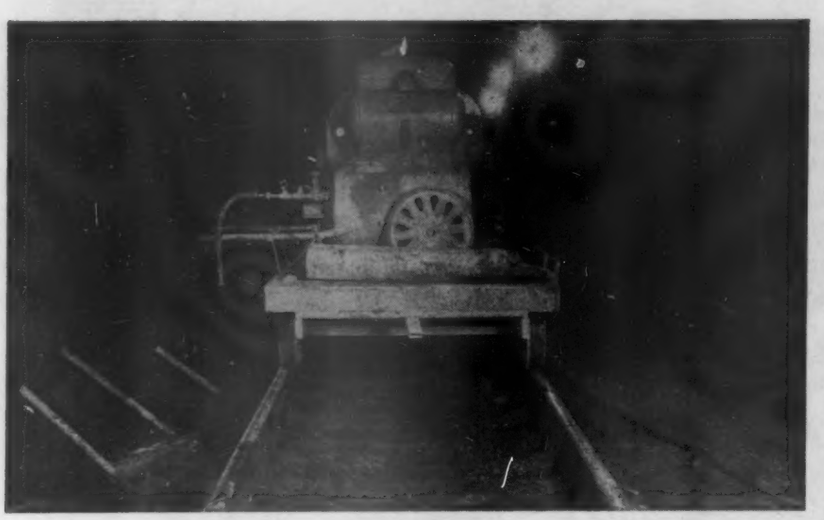
1759

Pressure Grouting Stabilizes Tunnel Subgrade

Operation reduces track maintenance and permits Spokane, Portland & Seattle Railroad to remove 10 m. p. h. slow orders of 35 years standing.



A grout injector of ¼-cu. yd. capacity, mounted on a push-car, injected the grout pneumatically at 90 p. s. i. pressure.

Portland cement grout pumped under pressure into the wet subgrade of the Fort Wright Tunnel on the Spokane, Portland & Seattle Railroad, near Spokane, Wash., has stabilized the soft subgrade and permitted the railroad to remove slow orders of 35-years standing.

Since shortly after the tunnel was completed in 1910, the watery subgrade has caused operating problems, high maintenance and slow orders. Train speeds were limited to 10 m.p.h.

Now for the first time in 35 years trains are operating through the tunnel at normal speeds and track maintenance on the 2,134 ft. length of the tunnel has been greatly reduced.

Quicksand and Clay

Most of the Fort Wright Tunnel is on a 3-degree curve. The bore was driven through quicksand, clay and "rotten" rock. Considerable water was encountered during the boring operations.

Shortly after the tunnel was opened, soft spots developed and bulges of clayey materials, quicksand and water pushed up through the ballast every time a train passed. At times water covered the ties. This condition required constant efforts of section crews to remove muck from the drainage ditches and maintenance cost was extremely high.

After investigation of track grouting operations on several other railroads, S. P. & S. engineers decided to try pressure grouting in the Fort Wright Tunnel.

In January 1945, work was started under the direction of E. B. Stanton, maintenance-of-way engineer. N. S. Westergard, roadmaster at Pasco, was in direct charge of the work in the field.

Beginning at the west portal, the track was grouted throughout the full length of the tunnel and more than 200 ft. beyond the east portal, a total distance of 2,350 ft. The job was completed in 70 days. The work was done under force account by Clifton & Applegate, general contractors.

Throughout most of the work the grout injection pipes were driven at every second tie. The mixture used consisted of 6 parts portland cement, 3 parts blow sand, 1 part diatomaceous earth and 10 parts water.

A grout injector of ¼-cu. yd. capacity, mounted on a pushcar, injected the grout pneumatically at a pressure of 90 p. s. i. (Grouting technique is described in detail in "Stabilizing Railroad Track by Pressure Grouting", published by the Portland Cement Association.

Quantities Varied

Total quantities of materials used indicated that an average of a ¼-yd. batch was used for every two injection points. Quantities per grout point varied, however, from as little as one ¼-yd. batch for four or five pipes to as much as five batches for a single pipe.

After the grouting was completed the foul ballast and dry mud were replaced with new ballast, bringing the track to proper grade and alignment. It has since remained stable under normal train speeds.

. . . . . .

More than 35 major railroads are using pressure grouting with portland cement to eliminate water pockets or soft spots and increase the load-carrying capacity of troublesome subgrades.

In nearly every instance where pressure grouting has been tried, the entire cost has been returned within a few months by savings in maintenance.

PORTLAND CEMENT ASSOCIATION

Dept. 7B-26, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work.

In grouting the Fort Wright Tunnel, injection pipes were driven at every second tie, at an angle so that bottom of pipe was about under the rail.
(Photographs and factual data courtesy Western Construction News)

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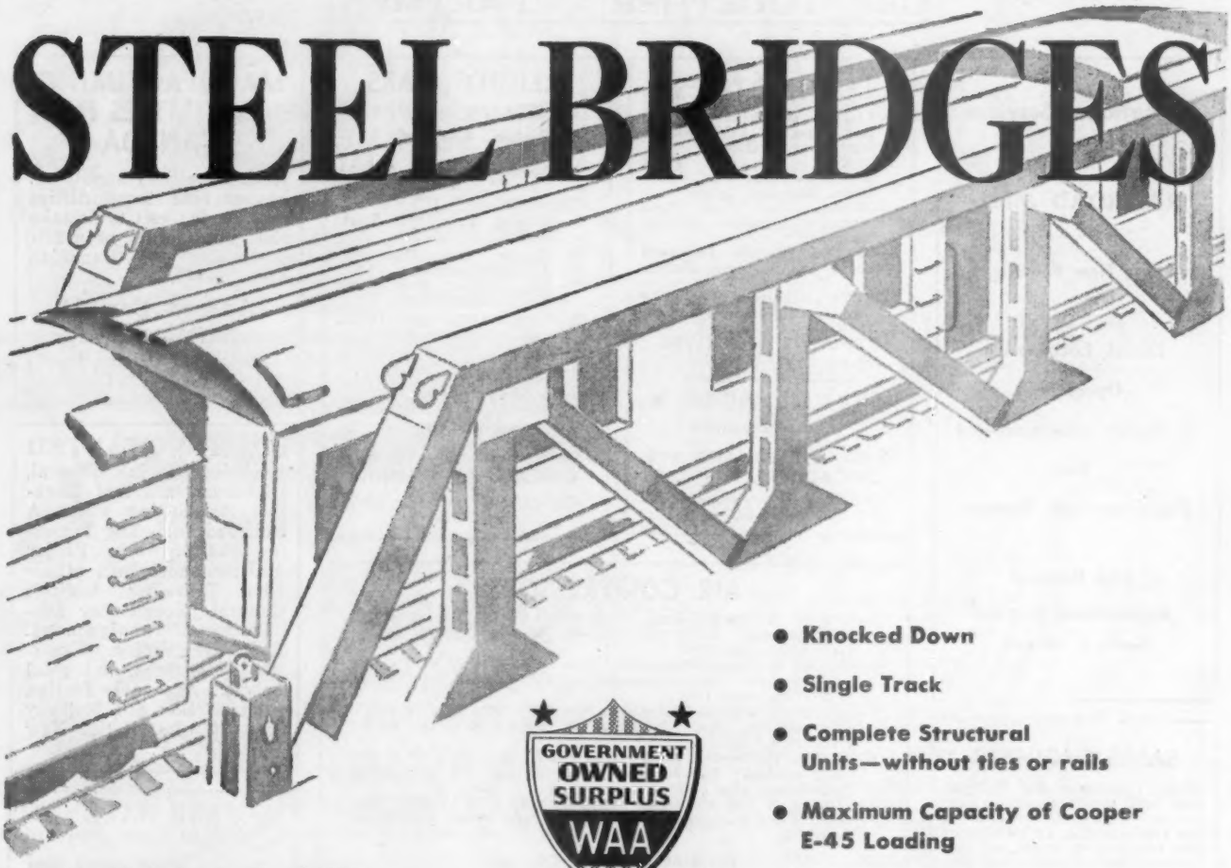

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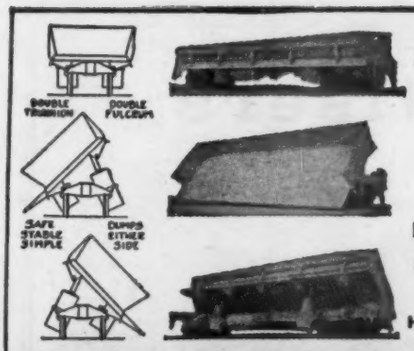

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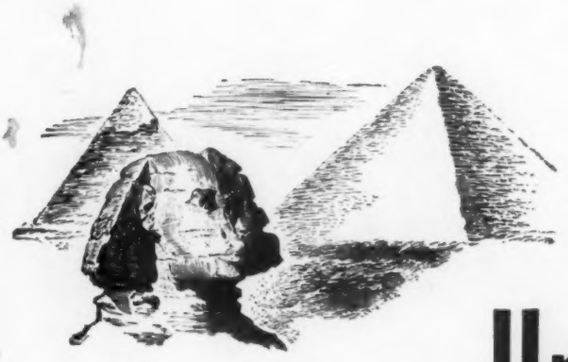

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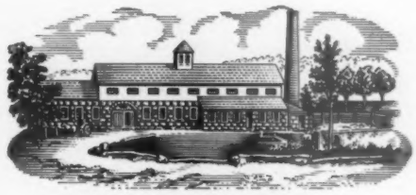

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